



February 2, 2012

Mr. James Cagle
Nu-West Industries
Conda Phosphate Operations
3010 Conda Road
Soda Springs, ID 83276

Re: Background Soil Conditions and Proposed Soil Screening Levels
Nu-West Industries, Inc., Conda Phosphate Operations Facility
EPA Docket No. RCRA-10-2009-0186

Dear Jim:

WSP Environment & Energy, LLC has prepared this letter report presenting the findings of the incremental sampling (IS) background soil investigation. The work was performed in accordance with the Offsite Soil Sampling Plan Sampling and Analysis Work Plan Addendum (Work Plan Addendum) for Nu-West's Conda Phosphate Operations (CPO), prepared pursuant to Section VII of the Administrative Order on Consent between Nu-West and the U.S. Environmental Protection Agency (EPA), executed June 23, 2009.

The information presented herein is necessary to obtain EPA concurrence on background soil concentrations which will then be used to: (1) identify impact from releases associated with the CPO decant ditch system in nine offsite decision units (DUs); and (2) establish comparative values (CVs) to be used in determining vertical delineation requirements in these DUs and identifying constituents for potential inclusion in a quantitative risk evaluation.

CVs are defined as:

- The lower of the human health or ecological screening level, unless this value is below background.
- If either the human health or ecological screening level is above background, then it becomes the CV.
- If both ecological and human health screening levels are below background, then background is the CV.

WSP implemented the IS investigation of the background areas and offsite DUs between October 17 and October 30, 2011. Pursuant to the Work Plan Addendum, all of the background IS samples and the surficial DU IS samples were submitted for laboratory analysis. As discussed herein, the background data have been used to calculate background concentrations and identify CVs for EPA approval. The offsite DU data will be compared to the CVs to identify potential exceedences. Where an exceedence occurs, the next deeper IS sample from the appropriate DU will be released for laboratory analysis for the purpose of vertical delineation; this iterative process will continue until delineation is complete. At the conclusion of this process, WSP will provide a report of findings addressing background conditions and conditions in the offsite DUs.

This letter report provides the following:

- a summary of sampling activities
- results
- data analysis
- identification of background concentrations and CVs

SUMMARY OF SAMPLING ACTIVITIES

Except as noted herein, all work was performed in accordance with the Work Plan Addendum.

Sample Collection and Compositing

Figures 1a, 1b, and 1c identify the limits of the three background properties (North, Central, and South properties) and the locations of the approximate 1-acre sample areas and the 30 sample grids established therein. These figures also illustrate the relative locations of the background properties and the CPO facility.

The area identified in the Work Plan Addendum for sample collection within the Central Property was not viable due to steep terrain and presence of basalt across a portion of the surface. The sample area was moved northeast approximately 250 feet (**Figure 1b**).

The Work Plan Addendum indicated the 1-acre plots would be square. To facilitate the 30 necessary grids for sample collection, the plot limits were modified to accommodate grids of approximately 34 feet (east-west) by 40 feet (north-south), as shown in these figures. The corners of the sample areas are based on GPS readings recorded in the field.¹ Within each grid, the primary sample borings and associated triplicate borings (designated as T1 and T2) were collected near the northeast corner of the grid, center of the grid, and southwest corner of the grid.

The boreholes were advanced using direct push technology; 5-foot single-use sleeves were used to line the sample rods which were advanced to depths of approximately 4 feet below ground surface (ft-bgs). Soil samples from each borehole were divided, in the field, into nine aliquots corresponding to these intervals:

- ground surface to 2 inches below ground surface (in-bgs)
- 2 to 6 in-bgs
- 0.5 to 4 ft-bgs, in 6-inch increments

Thus, for each background property, 810 separate sample aliquots were generated: 30 grids, 3 boreholes per grid, 9 sample aliquots per borehole. These aliquots were transported to the CPO facility for compositing. The compositing activity yielded samples representative of each of the 9 sample intervals for the primary boreholes, and the T1 and T2-series boreholes, or a total of 27 samples per background property.

IS commenced in the South Property on October 17 and was completed the following day; the Central Property was completed on October 19; and the North Property was completed

¹ Prior to implementing the investigation, the EPA approved the use of GPS units for documenting sample areas and grid nodes (EPA, October 14, 2011). The units used provide accuracies to the sub-foot level (Trimble Geo XH 2008/3000 series).

on October 20. Crops had recently been harvested from all three background properties prior to implementing the IS program.

Sample Preparation

At the request of the laboratories, WSP requested elimination of the soil-grinding step, required by SW-846 Method 8330B, in sample preparation. Although the EPA approved elimination of this step, both laboratories ultimately performed grinding consistent with the methodology and the Work Plan Addendum.

Quality Assurance/Quality Control

Pursuant to the Work Plan Addendum, blind duplicate samples were to be collected at a ratio of 1:10 samples. One duplicate was collected for each of the background properties ultimately resulting in a 1:9 duplicate to sample ratio. The only non-dedicated pieces of equipment used during the investigation were the stainless steel bowls and scoops used for sample compositing. Equipment blanks for these units were collected each day sample compositing occurred, except October 23 and October 28.

Investigation-Derived Waste Handling

Decontamination water generated during drilling activities and cleansing of the compositing equipment was contained in 5-gallon buckets and transported by facility personnel for disposal in the decant ditches. Residual soil from the compositing process was contained in 55-gallon drums which were transported by facility personnel to the facility's waste storage area. A composite sample of the four drums was collected for analysis of hazardous characteristics: corrosivity, ignitability, reactivity, and toxicity (including testing for herbicides, pesticides, and metals).

RESULTS

Field Observations

The collection of samples at depth from several locations in each of the background properties was inhibited by the presence of basalt or notable deposits of coarse fluvial-derived rock.² **Table 1** summarizes the intervals that could not be retrieved.

The study areas are overlain by silt/clayey silt with varying plasticity. In the North and South properties the thickness of the soil cover is approximately 10 inches on average; the soil cover in the Central Property is slightly thinner. In general, this soil is underlain by a layer of silt with little to no clay or plasticity.

Along the perimeter of the North Property study area, the lower silt layer extends to the total depth of the investigation: 4 ft-bgs. Through the central portion of this area, the silt is mixed with varying degrees of sub-angular to sub-rounded rock and rock fragments (up to approximately 1-inch in diameter), sand or both. This material is first encountered at depths ranging between 3 and 4 ft-bgs. Not infrequently, this mix of silt and coarser materials is underlain by another silt layer. The central portion of the North Property is generally consistent with the lower-lying ground surface illustrated in the topographic map (**Attachment 1**) and is likely indicative of historical alluvial deposits derived from the elevated areas to the west.

² Instances of refusal were significantly fewer in the release-related DUs.

The lower silt layer similarly predominates across most of the Central and South properties. However, in the Central Property, basalt fragments or intact cores of basalt were encountered in the majority of the two western-most columns of the grid system from depths as shallow as 21 inches. These same grids were those from which samples were most frequently not retrievable at depth. The presence of basalt at shallower depths to the west is consistent with the presence of basalt at and near the surface in this area. Within the South Property, basalt fragments or intact cores of basalt were encountered in the majority of the grids, typically between 3 and 4.5 ft-bgs.

Laboratory Analytical Results

Table 2 presents the analytical results for non-radiological parameters.³ Due to elevated mineralogical content, a majority of the samples required a 5x dilution. The data deliverables are currently being validated.

Blind duplicates were collected from each of the background areas for the 0 to 2 in-bgs interval. The results are provided in the tables adjacent to the results for the associated samples (the samples were labeled and identified on the chains-of-custody using the convention: "CPO-SB-(Area)-31-0002").

Equipment blanks were collected for the spoons and bowls used for compositing on an approximately daily basis. Aluminum, barium, calcium, iron, lead, and manganese were detected at less than a part per million, in the initial two blanks. Calcium, aluminum, lead, and fluoride were reported in one or more of the subsequent samples, also at concentrations below a part per million.

A composite sample was prepared using aliquots collected from four drums of soil generated during sample compositing. The sample was analyzed for corrosivity, ignitability, reactivity and toxicity (including testing for herbicides, pesticides, and metals). The results confirmed that the soil was non-hazardous.

DATA ANALYSIS

Relative Standard Deviation (RSD)

RSD is a statistical measure typically used to evaluate the heterogeneity among replicate IS samples within the same DU and depth interval.⁴ The RSDs, presented in **Table 3**, were calculated using the formula:

$$\%RSD = 100(s)/\bar{x}, \text{ where}$$

s = the standard deviation of the triplicates

\bar{x} = the mean of the triplicates

The calculations are presented in **Attachment 2a**.

According to the U.S. Army Corps of Engineers, a %RSD less than 30 suggests "the sampling design and execution are likely to be adequate" and that "the distribution of replicate results can be assumed to be approximately normal. A larger %RSD is indicative of deviations from normality and suggests that the field sampling design and/or laboratory

³ Following receipt of approval from the EPA on the statistical concepts and approach presented herein, the radiological data will be similarly evaluated and the findings presented to the Agency for concurrence on background concentrations and CVs.

⁴ U.S. Army Corps of Engineers. 2009. Interim Guidance 09-02, Implementation of Incremental Sampling (IS) of Soil for the Military Munitions Response Program. July 20.

processing procedures were not adequate to control effects of distributional or compositional heterogeneity".⁴

For non-detect values, WSP used the standard practice of calculating values using $\frac{1}{2}$ the detection limits. As shown in Table 3, there are a handful of %RSDs greater than 30 for those constituents with infrequent detections (antimony, cadmium, selenium, and thallium). Consequently, the calculations were also performed using the full detection limits. As shown in **Table 3**, when the full detection limit is used in the calculation, the %RSDs for all parameters are below 30 with following exceptions:

- Cadmium
 - South 0.5-1 ft-bgs through 3.5 to 4 ft-bgs
- Calcium
 - North 1 to 1.5 ft-bgs, 1.5 to 2 ft-bgs, and 2-2.5 ft-bgs
 - Central 0 to 2 in-bgs, 1 to 1.5 ft-bgs
- Fluoride
 - North 2 to 6 in-bgs

The %RSDs for cadmium reflect differences between both low detected concentrations and low detection limits within the same triplicate groups.⁵ At low concentrations such as were reported, even small absolute differences in concentration between samples can result in elevated RSD estimates. Therefore, the elevated %RSDs are not believed to compromise the data usability.

The %RSDs for calcium reflect a strong trend in all three background properties to increasing concentrations at depth (see below). The wide range of reported concentrations is dependent on both the sample depth and the degree to which the concentrations change between intervals, and the mixing that likely occurs during tilling, planting, and harvesting (assumed to be in the 0 to 2 ft-bgs range). Thus, the elevated %RSDs for calcium indicate a degree of natural heterogeneity that isn't observed for the other constituents evaluated. Despite this heterogeneity, we believe that the IS data for calcium is suitable for the establishment of background levels.

The elevated %RSD for fluoride reflects results ranging between 0.88 milligrams per kilogram (mg/kg) and 1.5 mg/kg. As noted above, relatively small absolute differences such as this can result in elevated RSD estimates that do not compromise the data usability.

Data Trends

To evaluate potential trends in constituent concentrations with sample depth, the average concentrations for each sample interval and background property were calculated. The average concentrations and sample intervals were graphed for each of the three properties and a regression analysis was performed. The only parameters not addressed in the evaluation were antimony, selenium, sodium, and thallium, which were not detected at frequencies that could produce meaningful results. The findings are summarized in **Table 4**; the graphs are presented in **Attachment 2b**. This evaluation indicates: increasing trends with depth (i.e., R^2 values greater than 0.8) for calcium, magnesium, and pH; and a decreasing trend with depth for potassium.

⁵ This is also true for the other constituents infrequently detected, detected at low concentrations, or both.

Significant Differences

Triplicate sample results were compared among the three background DUs to identify statistically significant differences among the three properties. This comparison was made for each of the nine sample intervals and between each possible pair of DUs (i.e., south versus central, central versus north, and south versus north). Similarly, data for all depths combined were compared among the three background DUs.

A hypothesis test was conducted to compare the mean concentrations among the background DUs. The hypothesis is that the mean concentration is the same for each DU. The sample means (\bar{x}_1 and \bar{x}_2) and standard deviations (s_1 and s_2) were calculated for each of the two data sets being compared, with sample sizes n_1 and n_2 ($n_1 = n_2 = 3$ for an individual depth and $n_1 = n_2 = 27$ for all depths combined). Assuming the population variance is the same for each background property, a pooled estimate of the variance is:

$$s^2 = [(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2] / (n_1 + n_2 - 2)$$

The test statistic is:

$$t = (\bar{x}_1 - \bar{x}_2) / (s^2/n_1 + s^2/n_2)$$

and has a Student's t distribution with $(n_1 + n_2 - 2)$ degrees of freedom. If $|t|$ does not exceed the critical 2-tailed t value for 95% significance (i.e., $t_{0.975}$), the hypothesis that the means are the same is not rejected (i.e., accepted).⁶

As shown in **Table 5**,⁷ mean concentrations were either the same or different, depending on the constituent of interest and the sample interval. Even where a statistically significant difference was detected, the differences among the mean values were minimal in absolute terms. For example, mean lead concentrations (considering all depths combined) were statistically different among all three background DUs; yet the mean lead concentrations for the three DUs ranged only from 10.4 mg/kg to 12.1 mg/kg. These differences likely reflect slight variations in geologic conditions among the properties, which are distributed over an area of 9 miles.

IDENTIFICATION OF BACKGROUND CONCENTRATIONS AND CVs

Based on the data analysis presented above, it is believed the background data are appropriate for use. Pursuant to the Work Plan Addendum and as detailed below, WSP calculated the 95% upper confidence levels (UCLs) of the mean concentrations, identified 95% UCLs for evaluating potential impact, and compared available soil screening levels and the background concentrations to identify CVs.

95% UCLs of the Means

Triplicate sample results from the three background DUs were pooled to generate 95% UCLs for the following soil depth intervals:

- each of the nine individual intervals
- the 0 to 6 in-bgs interval
- the 0 to 2 ft-bgs interval
- the 2 to 4 ft-bgs interval

⁶ A 2-tailed analysis is appropriate, because the concern is only whether the means are different, not which one is greater.

⁷ Detailed calculations are presented in **Attachment 2c**.

A summary of the calculated 95% UCLs is presented in **Table 6**. The calculation spreadsheets, presented in **Attachment 3**, include the mean sample concentrations.⁸ The 95% UCL of the mean was calculated assuming that the IS results are normally distributed. Even if the underlying distribution of concentrations in soil were skewed, the IS results, each approximating an average of 30 individual locations, would be expected to have a normal distribution based on the Central Limit Theorem. Given a sample mean of \bar{x} , sample standard deviation s , and sample size n , the 1-tailed 95% UCL of the mean is then calculated as:

$$UCL = \bar{x} + t_{0.95, n-1}s/n^{1/2}$$

Where $t_{0.95, n-1}$ is the value of the Student's t distribution function for a cumulative probability of 0.95 and $n-1$ degrees of freedom. The UCL calculated in this manner represents a conservative estimate of the mean concentrations, which would exceed the true mean 95% of the time.

Offsite DU Evaluations

One of the two key objectives of the background IS study was to establish values for comparison with IS data for the nine offsite DUs. Exceedences of the background values would, presumably, be indicative of impact. Background values are typically selected to represent the upper end (e.g., the 95th percentile) of the background concentration range. Because this assessment uses IS, all of the data generated (including background and offsite DU data) represent central tendency estimates within defined DUs.

The 95% UCL of the mean is generally only slightly higher than the sample mean, reflecting the relatively low coefficient of variation among triplicate IS samples from the same depth interval and among depth intervals. Therefore, the 95% UCL of the mean is not an estimate of the upper end of the background range, but is instead a slightly conservative estimate of the mean background value. As such, a random sample of background soil would exceed the 95% UCL with a high probability (nearly 50% in some cases).

For each constituent, WSP proposes to use the highest⁹ 95% UCL (**Table 6**) for the various depth intervals because this accounts for natural variations in the mineralogical content of soils in these areas, differences in depositional layers, and anthropogenic activities (e.g., automobile exhaust, addition of fertilizers, and mixing of the soil during tilling). Additionally, because the background concentrations established using IS are really central tendency estimates, using the highest of the 95% UCL estimates from the different soil intervals will somewhat reduce the chances of the decision error of identifying samples with concentrations in the range of background as being impacted.

WSP also proposes that in instances where an offsite DU concentration exceeds the 95% UCL, further analysis be conducted to ascertain whether there is a statistically significant difference between the offsite DU and background means.

⁸ For non-detect values, values of ½ the detection limits were used in the calculation consistent with standard practice. The calculation spreadsheets are from the draft Interstate Technology Regulatory Council's Incremental Sampling Methodology document, which is to be published on February 15, 2012.

⁹ For pH, the minimum level and maximum level will be the 95% lower confidence limit (LCL) and the 95% UCL.

Comparative Values

The primary objective of the offsite soil sampling program, specifically that portion of the study within the offsite DUs, was to evaluate the potential for risk to human health and the environment. The risk-based soil screening levels developed for this purpose were presented in the Work Plan Addendum and are presented herein in **Tables 7a and 7b**. Two changes are proposed to the risk-based soil screening levels presented in the Work Plan Addendum.

First, the Work Plan Addendum included EPA's Regional Screening Levels (RSLs) for residential and industrial exposure scenarios. The property on which the releases occurred or potentially occurred was purchased by Nu-West in December 2011. Consequently, WSP proposes eliminating the residential RSLs from consideration in the development of the human health risk-based soil screening levels.

Second, the Work Plan Addendum specified the EPA's Ecological Soil Screening Levels (Eco SSLs) as the primary source of ecological risk-based soil screening levels. For parameters without Eco SSLs (thallium, fluoride, and uranium), the Work Plan Addendum proposed the Oak Ridge National Laboratory (ORNL) Ecological Screening Benchmarks (**Table 7b**).¹⁰ The ORNL Benchmarks include "wildlife" values that represent dietary concentrations food or prey consumed by various wildlife receptors. Using these values for the purposes of soil screening would require bioaccumulation factors for the various dietary items consumed by each wildlife receptor. Rather than going through this complex exercise, WSP proposes to use the ecological soil benchmarks for wildlife provided in a document also prepared for ORNL: *Preliminary Remedial Goals for Ecological Endpoints*.¹¹ These values are presented in **Table 7c**.

The background IS study was performed to ensure that regional conditions are taken into account in this process. Specifically, the background concentrations are to be compared to the risk-based levels to establish the CVs. Similar to the use of background concentrations for evaluating impacted areas, WSP proposes to use the highest 95% UCLs¹² for the individual intervals as this would account for natural variations in the mineralogical content of soils in these areas, differences in depositional layers, and anthropogenic activities.

Tables 8a and 8b present the updated human health and ecological screening values, the maximum calculated 95% UCLs, and identify the CVs.

Background concentrations that exceed an EPA or Idaho Department of Environmental Quality screening level for human health include arsenic, iron, and manganese; background concentrations that exceed one or more screening levels for ecological receptors include cadmium, lead, manganese, selenium, and vanadium.

¹⁰ Oak Ridge National Laboratory (ORNL). 2003. Screening Benchmark Reports, available at: http://www.esd.ornl.gov/programs/ecorisk/benchmark_reports.html

¹¹ Efroymson, R.A., G.W. Suter II, B.E. Sample and D.S. Jones (1997): Preliminary Remediation Goals for Ecological Endpoints. Oak Ridge National Laboratory, Oak Ridge, TN. ES/ER/TM-162/R2.

¹² For pH, the minimum level and maximum level will be the 95% lower confidence limit (LCL) and the 95% UCL.

SUMMARY

Table 6 identifies the highest 95% UCLs of the mean calculated for the various IS intervals soil concentrations. These values will be compared to the 95% UCL concentrations reported for the offsite DUs to determine potential impacts. As noted above, in instances where an offsite DU concentration exceeds the 95% UCL, further analysis will be conducted to ascertain whether there is a statistically significant difference between the offsite DU and background means.

The values presented in **Table 6** were compared to the screening levels for human health and ecological receptors. The higher of the background and risk-based screening levels are identified as CVs in **Tables 8a and 8b**. These values will be compared to the 95% UCL concentrations calculated for the surficial IS samples collected from the offsite DUs. In accordance with the Work Plan Addendum, if the 95% UCL for any 2 to 6 in-bgs sample aliquot (i.e., the deeper of the two intervals analyzed thus far) exceeds a CV, the sample from the next deeper interval (0.5 to 1 ft-bgs) in that DU will be analyzed, and so on until the concentration meets or is below the CV.

Following acceptance of the CVs presented herein, WSP will apply a similar approach for data analysis and calculation of radiological CVs for EPA approval. On completion of vertical delineation of non-radiological and radiological parameters, a summary report of findings will be prepared for submittal to the Agencies. The report will identify those constituents present at concentrations greater than the CV which will be retained for a quantitative risk evaluation.

If you have any questions, please do not hesitate to contact me.

Sincerely,

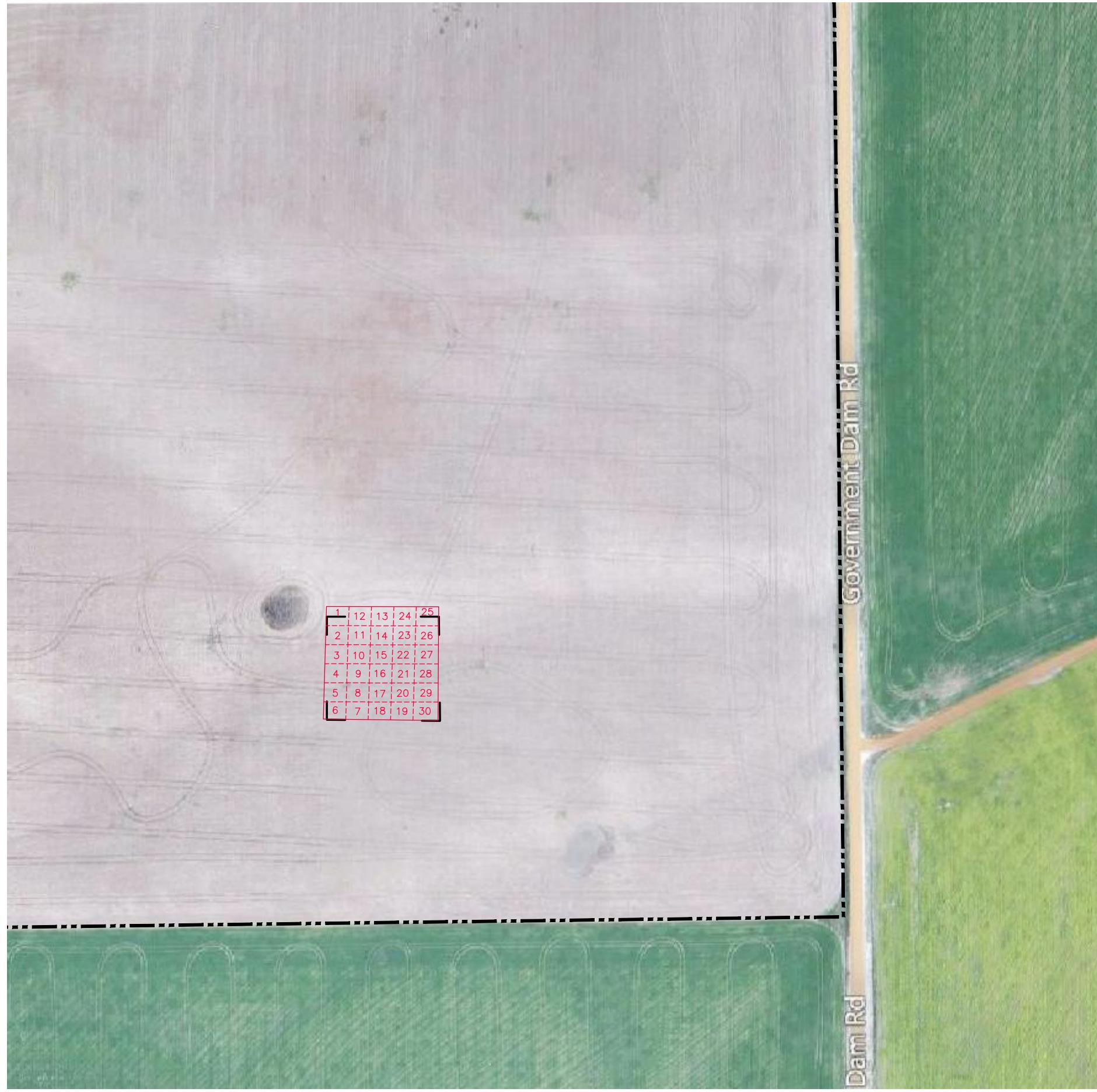


James P. Bulman
Executive Vice President

cc: P. Scott Burton, Hunton & Williams, LLP

Attachments

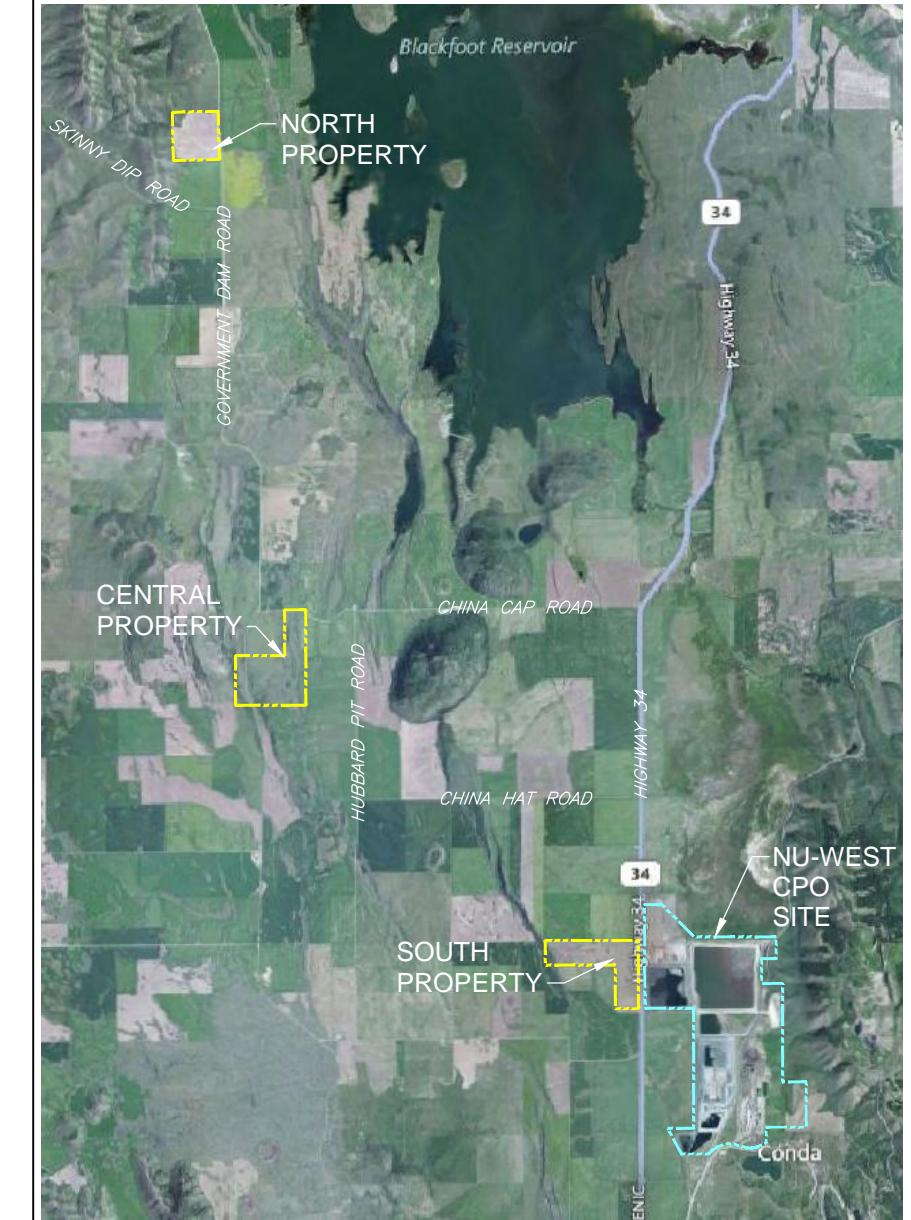
Figures



NORTH PROPERTY
SCALE: 1" = 200'

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B



LOCATION MAP
SCALE: 1" = 2 MILES

LEGEND

- APPROXIMATE PROPERTY LINE
- LIMITS OF PROPOSED GRID AREA
- LIMITS OF GRID AREA AND INDIVIDUAL GRIDS



LIMITS OF GRID AREA AND INDIVIDUAL GRIDS



N

0 200 400
SCALE IN FEET

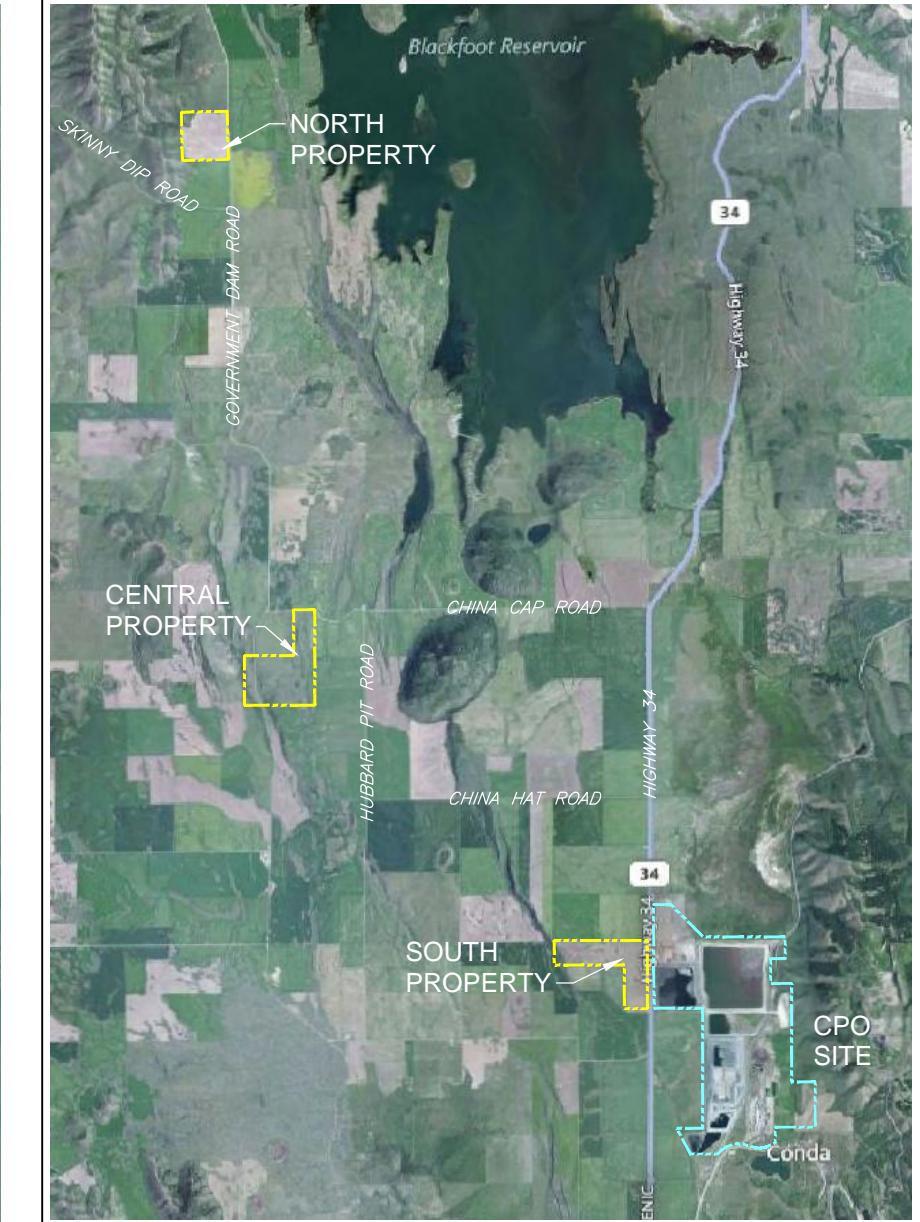
WSP
WSP Environment & Energy, LLC
4600 South Ulster Street, Suite 930
Denver, Colorado 80237
(303) 850-9200
www.wspenvironmental.com/usa

Figure 1a	NU-WEST CPO SODA SPRINGS, IDAHO PREPARED FOR NU-WEST INDUSTRIES, INC.
Figure 1a	NU-WEST CPO SODA SPRINGS, IDAHO PREPARED FOR NU-WEST INDUSTRIES, INC.
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Drawn By: EGC <i>[Signature]</i>
Checked: <i>[Signature]</i>
Approved: <i>[Signature]</i>
DWG Name: 0023229-025

**B**

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LEGEND
— APPROXIMATE PROPERTY LINE

— LIMITS OF PROPOSED GRID AREA



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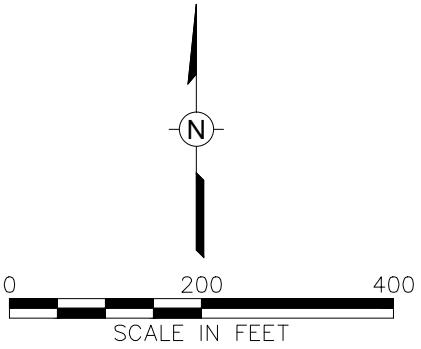


Figure 1b

NU-WEST CPO SODA SPRINGS, IDAHO PREPARED FOR NU-WEST INDUSTRIES, INC.	Drawn By: EGC <i>[Signature]</i> 01/27/12
	Checked: <i>[Signature]</i> 01/27/12
	Approved: <i>[Signature]</i> 01/27/12
DWG Name: 0023229-025	

**B**

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LEGEND
— APPROXIMATE PROPERTY LINE

— LIMITS OF PROPOSED GRID AREA

— LIMITS OF GRID AREA AND INDIVIDUAL GRIDS



0 200 400
SCALE IN FEET

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Figure 1c	NU-WEST CPO SODA SPRINGS, IDAHO PREPARED FOR NU-WEST INDUSTRIES, INC.
SOUTH PROPERTY GRID LABELING AND SAMPLE MANAGEMENT PLAN	Drawn By: EGC <i>[Signature]</i> 01/27/12 Checked: <i>[Signature]</i> 01/27/12 Approved: <i>[Signature]</i> 01/27/12 DWG Name: 0023229-025

Tables

Table 1

Summary of Non-Retrievable Sample Intervals
Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Property/Grid	Missing Sample Intervals		Property/Grid	Missing Sample Intervals			Property/Grid	Missing Sample Intervals							
	3-3.5 ft-bgs	3.5-4 ft-bgs		2.5-3 ft-bgs	3-3.5 ft-bgs	3.5-4 ft-bgs		1.5-2 ft-bgs	2-2.5 ft-bgs	2.5-3 ft-bgs	3-3.5 ft-bgs	3.5-4 ft-bgs			
North			Central				South								
5	-	X	1	-	-	X	1	X	X	X	X	X			
8	-	X	2	-	X	X	3	-	-	-	-	X			
12	X	X	6	-	-	X	5	-	-	-	-	X			
13	-	X	12	-	-	X	7	-	-	-	-	X			
17	-	X	18	-	-	X	8	-	-	-	X	X			
29	-	X	Central T1				10	-	-	-	X	X			
North T1 (b)							11	-	-	-	-	X			
8	-	X					15	-	-	-	-	X			
12	-	X					17	-	-	-	-	X			
North T2							20	-	-	-	-	X			
8	-	X					21	-	-	-	-	X			
10	-	X					22	-	-	-	X	X			
15	-	X					23	-	-	-	-	X			
							24	-	-	-	-	X			
							28	-	-	-	X	X			
			Central T2				30	-	-	-	-	X			
							2	-	-	X	X	X			
							3	-	-	-	X	X			
							4	-	-	-	-	X			
							6	-	-	-	-	X			
							7	-	-	-	-	X			
							8	-	-	-	X	X			
							9	-	-	-	-	X			
							13	-	-	-	-	X			
							16	-	-	-	-	X			
			South T1				21	-	-	-	X	X			
							22	-	-	-	-	X			
							23	-	-	-	-	X			
							27	-	-	-	X	X			
							28	-	-	-	-	X			
			South T2				1	X	X	X	X	X			
							3	-	-	-	X	X			
							4	-	-	-	-	X			
							5	-	-	-	-	X			
							7	-	-	-	-	X			
							8	-	-	-	X	X			
							10	-	-	-	X	X			
							14	-	-	-	X	X			
a/	ft-bgs = feet below ground surface; T1 = triplicate 1; T2 = triplicate 2;														
	"X" indicates sample interval not retrievable; "-" indicates sample interval retrieved.														
b/	Sample aliquots from Grids 13 and 14 were not composited with aliquots from other grids, but were composited with one another and submitted for analysis.														

Table 2

**Summary of Soil Sample Results for Background Properties
(Non-Radiological Parameters)**
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Background DU:	NORTH PROPERTY																									
	Sample:	NORTH	NORTH	NORTH T1	NORTH T2																					
	Sample Date:	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	
Depth (bgs):																										
0-2 in (b)																										
Parameters																										
Metals (mg/kg)																										
Aluminum	11,800	12,000	12,600	12,300	13,500	13,800	11,600	13,700	14,100	12,600	12,100	12,600	14,300	12,000	12,300	12,700	12,800	12,400	10,800	12,000	11,800	11,100	11,800	11,100		
Antimony	0.35 U (c)	0.37 U	0.37 U	0.42 U	0.35 U	0.33 U	0.4 U	0.46 U	0.41 U	0.31 U	0.37 U	0.5 U	0.43 U	0.36 U	0.31 U	0.48 U	0.46 U	0.38 U	0.36 U	0.49 U	0.41 U	0.35 U	0.41 U	0.35 U		
Arsenic	3.4	3.3	4	4	3.9	3.4	3.9	4	3.5	3.7	3.7	3.6	4	2.6	3.7	3.2	3.6	3.3	2.9	3.1	2.9	3.1	3.1	3.1	3.1	
Barium	126	125	139	135	136	149	130	145	148	135	129	123	138	125	141	137	144	136	124	139	135	135	135	135	135	
Beryllium	0.7	0.68	0.75	0.71	0.73	0.79	0.67	0.79	0.81	0.74	0.71	0.7	0.8	0.66 J	0.72	0.72	0.71	0.71	0.65	0.65	0.65	0.65	0.65	0.65	0.69	
Cadmium	0.42	0.36	0.48	0.45	0.29	0.42	0.36	0.23 U	0.21 U	0.18	0.19 U	0.25 U	0.21 U	0.18 U	0.22	0.24 U	0.23 U	0.19 U	0.18 U	0.25 U	0.2 U	0.17 U	0.2 U	0.17 U		
Calcium	4,180	3,890	4,140	3,840	4,060	4,560	3,810	5,500	5,100	4,080	9,560	5,330	4,840	9,420	14,400	5,830	19,600	12,500	9,330	21,400	15,700	12,100	11,800	11,100		
Chromium	15.2	15.3	16.9	16.6	17	18.1	14.9	17.5	18.7	16.1	16	16.6	18.4	14.9	16.6	16.7	16.6	16.4	14.6	15.1	15.2	15	15.2	15		
Cron	11,900	12,000	12,900	12,700	13,500	13,600	11,800	14,000	14,100	12,300	12,600	12,900	14,300	11,600	13,000	13,400	13,200	12,900	11,600	11,800	12,000	11,800	12,000			
Lead	11.7	11.4	12.8	12.4	12	13.6	11.3	11.8	12.5	11.8	10.7	10.6	11.4	10.2	12.2	11.4	10.9	11.7	10.6	9.9	10.3	11.2	11.2	11.2		
Magnesium	3,250	3,180	3,390	3,230	3,460	3,630	3,100	3,860	3,730	3,360	3,710	3,420	3,810	3,770	4,280	3,780	4,630	4,220	3,640	4,930	4,640	3,830	3,830	3,830		
Manganese	513	503	591	560	536	631	538	571	599	548	504	486	546	431	500	503	458	482	426	416	464	499	499	499	499	
Nickel	12.5	12.1	13.4	12.9	13.1	14.2	12.2	14.5	14.6	13.2	13.2	13	14.6	12.1	13.4	13.6	13.1	13.7	12.4	12.4	13	13.2	13.2	13.2		
Potassium	2,870	2,850	2,990	2,930	2,930	3,090	2,610	2,930	2,990	2,730	2,380	2,430	2,910	2,510	2,230	2,610	2,250	2,150	1,980	1,720	1,960	1,720	1,960	1,960		
Selenium	0.7 U	0.74 U	0.85	0.85 U	0.69 U	0.67 U	0.81 U	0.93 U	0.83 U	0.63 U	0.75 U	1 U	0.85 U	0.73 U	0.63 U	0.96 U	0.93 U	0.76 U	0.71 U	0.98 U	0.81 U	0.7 U	0.7 U			
Sodium	190 U	200 U	210 U	230 U	190 U	180 U	220 U	250 U	230 U	170 U	210 U	280 U	240 U	200 U	170 U	260 U	250 U	210 U	200 U	270 U	220 U	190 U	220 U	190 U		
Thallium	0.46 U	0.48 U	0.49 U	0.55 U	0.45 U	0.43 U	0.52 U	0.6 U	0.54 U	0.41 U	0.49 U	0.65 U	0.56 U	0.47 U	0.41 U	0.63 U	0.6 U	0.49 U	0.46 U	0.64 U	0.53 U	0.45 U	0.53 U	0.45 U		
Vanadium	16.4	17	18.6	18.6	19.1	19.4	15.8	19.1	20.4	17.3	18.2	17.6	20.6	15.4	19.3	18.2	19.4	18.1	15.3	17.1	16.4	16.5	16.5	16.5		
General Chemistry																										
Fluoride (mg/kg)	2.3	1.6	1.4	1.9	0.88	1.5	0.91	1.3	1.5	1.4	1.8	1.5	1.5	2.5	1.8	1.6	2.1	2.2	1.9	2.3	2.6	2.3	2.6	2.3		
pH (s.u.)	6.61	6.53	6.19	6.21	6.5	6.59	6.16	7.15	7.19	6.83	7.73	7.34	7.4	7.50	7.62	7.34	7.67	7.71	7.63	7.82	7.68	7.68	7.82	7.68		

Background DU:	NORTH PROPERTY					
Sample:	NORTH	NORTH T1	NORTH T2	NORTH	NORTH T1	NORTH T2
Sample Date:	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11	10/20/11
Depth (bgs):	3-3.5 ft	3-3.5 ft	3-3.5 ft	3.5-4 ft	3.5-4 ft (d)	3.5-4 ft

Parameters

Metals (mg/kg)						
Aluminum	10,800	10,700	11,000	11,000	11,321	11,000
Antimony	0.38 U	0.43 U	0.38 U	0.37 U	0.39 U	0.42 U
Arsenic	3.1	3.5	3.6	3.6	4	2.9
Barium	154	146	153	166	148	175
Beryllium	0.67	0.68	0.68	0.67	0.66	0.67
Cadmium	0.19 U	0.22 U	0.19 U	0.18 U	0.19 U	0.21 U
Calcium	28,600	21,400	18,400	30,600	24,829	20,700
Chromium	14.3	14.7	14.9	14.2	15	14.6
Iron	11,400	12,100	12,000	11,700	12,321	11,700
Lead	11.3	10.8	11.9	11.5	11.0	11.5
Magnesium	5,560	5,270	4,010	6,790	5,278	4,610
Manganese	488	510	655	651	521	715
Nickel	13.3	13.6	14.1	14.4	14.5	15.9
Potassium	1,620	1,560	1,860	1,650	1,518	1,570
Selenium	0.75 U	0.86 U	0.76 U	0.74 U	1 U	0.84 U
Sodium	210 U	240 U	210 U	200 U	215 U	230 U
Thallium	0.49 U	0.56 U	0.5 U	0.48 U	0.50 U	0.55 U
Vanadium	15.9	17.2	18.5	17.5	18.1	17.1

Table 2 (continued)

**Summary of Soil Sample Results for Background Properties
(Non-Radiological Parameters)**
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho

Background DU:		CENTRAL PROPERTY																				
Sample:	CENTRAL	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2
Sample Date:	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	
Depth (bgs):	0-2 in (b)	0-2 in (b)	0-2 in	0-2 in	2-6 in	2-6 in	0.5-1 ft	0.5-1 ft	1-1.5 ft	1-1.5 ft	1.5-2 ft	1.5-2 ft	2-2.5 ft	2-2.5 ft	2.5-3 ft	2.5-3 ft	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	
Parameters																						
Metals (mg/kg)																						
Aluminum	13,200	11,200	11,500	11,800	14,200	12,600	12,100	13,700	10,300	9,160	11,000	11,200	10,400	10,900	11,000	11,800	10,300	10,400	12,500	11,000	11,200	
Antimony	0.42	0.4 U	0.4 U	0.41 U	0.44 U	0.45 U	0.49 U	0.45 U	0.47 U	0.46 U	0.36 U	0.38 U	0.34 U	0.37 U	0.36 U	0.36 U	0.49 U	0.32 U	0.47	0.42 U	0.42 U	0.43 U
Arsenic	3.2	3	2.5	2.8	3	2.6	2.7	2.7	2.6	2.4	1.8	2.8	2.8	3.1	2.9	3.1	3	3.2	3	2.9	3.4	
Barium	141	133	127	131	151	131	133	122	123	101	109	116	122	118	121	136	129	147	140	152		
Beryllium	0.65	0.6	0.67	0.67	0.8	0.69	0.67	0.75	0.64	0.7	0.62	0.68	0.7	0.65 J	0.66	0.68	0.69	0.66	0.65	0.72	0.7	0.69
Cadmium	0.18 U	1	0.37	0.39	0.38	0.37	0.38	0.23 U	0.23 U	0.18 U	0.19 U	0.17 U	0.18 U	0.18 U	0.16 U	0.24 U	0.16 U	0.23 U	0.21 U	0.21 U	0.22 U	
Calcium	14,200	3,650	3,630	3,940	4,610	3,740	4,420	5,590	5,160	5,470	5,630	11,600	6,980	14,200	17,900	11,900	21,300	27,800	27,100	28,500	29,400	45,600
Chromium	12.7	13.5	14	14.6	17.3	14.7	14.8	16	13.1	13.6	11.3	13.7	13.4	12.7	12.8	13	14.2	11.9	12.3	14.1	12.7	12.7
Iron	11,000	12,400	11,800	12,800	14,200	12,000	12,600	12,900	11,300	11,100	9,070	11,500	11,100	11,000	10,700	11,200	12,200	9,810	10,400	12,300	11,000	11,200
Lead	10	10.8	11.1	11.5	13.3	11.2	11.2	11.5	11.2	11.5	10.3	10.6	10.6	10.0	9.9	10.4	10.3	9.8	9.2	9.9	10.1	10.1
Magnesium	3,790	3,680	3,070	3,520	3,710	3,260	3,290	3,640	3,070	3,330	2,940	3,920	3,550	3,790	4,140	4,110	4,680	4,960	4,940	5,440	5,520	6,460
Manganese	386	536	486	509	560	487	499	508	496	480	391	402	390	386	354	370	365	339	333	380	356	359
Nickel	12.7	13.5	12	13.4	14.3	12.5	12.8	13.6	12.6	12.7	11.4	12.9	12.9	12.7	12.6	13.2	13.7	12.2	12.4	13.4	13.4	13.1
Potassium	1,760	2,450	2,900	2,940	3,400	2,990	2,910	2,940	2,250	2,530	1,790	2,080	2,130	1,760 J	1,870	1,800	1,830	1,680	1,650	1,750	1,610	1,690
Selenium	0.74 U	0.81 U	0.95	0.87	1.2	1.4	0.98 U	0.9 U	0.95	0.93 U	0.73 U	0.76 U	0.69 U	0.74 U	0.72 U	0.73 U	0.97 U	0.64 U	0.92 U	0.85 U	0.83 U	0.87 U
Sodium	200 U	220 U	220 U	220 U	240 U	250 U	270 U	250 U	260 U	250 U	210 U	190 U	200 U	200 U	200 U	200 U	270 U	180 U	250 U	230 U	230 U	240 U
Thallium	0.48 U	0.52 U	0.52 U	0.53 U	0.57 U	0.58 U	0.64 U	0.59 U	0.61 U	0.6 U	0.47 U	0.5 U	0.45 U	0.48 U	0.47 U	0.47 U	0.63 U	0.42 U	0.6 U	0.55 U	0.54 U	0.57 U
Vanadium	14.1	19	16.5	18.9	19.9	17.3	18	17.8	14.3	15.4	10.1	15.1	15	14.1	15	14.7	16.7	13.9	15.7	17.8	15.7	16.3
General Chemistry																						
Fluoride (mg/kg)	3.2	2.5	3.6	3.5	3.5	3.5	4.6	2.8	3	2.2	2.8	1.7	1.6	2.8	1.9	1.9	2.9	2.2	3.4	2.4	2.3	
pH (s.u.)	6.18	6.25	6.39	6.44	6.91	6.49	7.18	7.61	7.59	7.58	7.68	7.8	7.73	8.00	7.98	7.92	8.06	8.11	8.14	8.07	8.21	8.22

Background DU:		CENTRAL PROPERTY					
Sample:	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	
Sample Date:	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	
Depth (bgs):	3-3.5 ft	3-3.5 ft	3-3.5 ft	3.5-4 ft	3.5-4 ft	3.5-4 ft	
Parameters							
Metals (mg/kg)							
Aluminum	13,800	12,400	10,500	11,700	12,100	14,800	
Antimony	0.45 U	0.39 U	0.37 U	0.37 U	0.37 U	0.5 U	
Arsenic	3	3.4	3	3.3			

Table 2 (continued)

**Summary of Soil Sample Results for Background Properties
(Non-Radiological Parameters)**
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho

Background DU:		SOUTH PROPERTY																								
Sample:	SOUTH	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	
Sample Date:	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	
Depth (bgs):	<u>0-2 in (b)</u>	<u>0-2 in (b)</u>	<u>0-2 in</u>	<u>0-2 in</u>	<u>2-6 in</u>	<u>2-6 in</u>	<u>2-6 in</u>	<u>0.5-1 ft</u>	<u>0.5-1 ft</u>	<u>0.5-1 ft</u>	<u>1-1.5 ft</u>	<u>1-1.5 ft</u>	<u>1-1.5 ft</u>	<u>1.5-2 ft</u>	<u>1.5-2 ft</u>	<u>1.5-2 ft</u>	<u>2-2.5 ft</u>	<u>2-2.5 ft</u>	<u>2.5-3 ft</u>							
Parameters																										
Metals (mg/kg)																										
Aluminum	13,400	13,700	12,700	14,900	12,600	13,900	11,200	13,100	14,500	13,400	15,800	15,300	13,800	13,500	14,200	14,400	11,600	13,100	12,700	11,700	14,400	12,400				
Antimony	0.37 U	0.44 U	0.34 U	0.4 U	0.34 U	0.38 U	0.33 U	0.44 U	0.41 U	0.36 U	0.48 U	0.39 U	0.38 U	0.46 U	0.41 U	0.41 U	0.37 U	0.46 U	0.38 U	0.34 U	0.48 U	0.5 U				
Arsenic	2.9	2.9	2.9	3.5	2.6	3.2	2.9	2.6	3.4	3.3	3.8	3.2	2.4	3.4	3.3	2.8	3.1	3.3	2.9	4	3.3					
Barium	140	145	141	144	137	153	132	137	140	143	146	150	138	134	149	146	142	159	151	151	185	162				
Beryllium	0.8	0.83	0.79	0.85 J	0.77	0.83	0.67	0.8	0.76	0.93	0.81	0.72	0.82	0.76	0.79	0.73	0.72	0.65	0.74	0.8	0.65					
Cadmium	0.61	0.6	0.7	0.58 J	0.59	0.75	1.1	0.43	0.79	1.1	0.24 U	0.9	0.8	0.23 U	0.75	0.74	0.19 U	0.69	0.7	0.17 U	0.79	0.67				
Calcium	3,600	3,690	3,390	3,610	3,560	3,610	3,050	3,650	4,410	4,920	5,450	6,390	5,580	11,600	15,300	9,420	23,800	20,400	20,800	29,400	31,300	29,400				
Chromium	16.3	17.4	15.4	18.9	15.4	16.8	12.9	16.3	18.3	15.2	19.4	17.3	15.2	16.3	15.8	16.4	14	15.1	14.8	13.6	16.9	14.6				
Iron	13,100	13,800	12,300	14,200	12,600	13,400	11,200	13,200	14,700	12,700	15,500	13,900	12,600	13,100	13,500	13,700	11,500	13,200	11,700	11,400	14,200	12,300				
Lead	13	13.1	12.3	13.5	12.7	12.5	11.7	13.3	14.3	12.6	12.6	13	11.8	11.1	12	11.8	10.5	11.2	10.9	10.3	11.6	9.9				
Magnesium	3,320	3,370	3,130	3,430	3,300	3,400	2,980	3,280	3,640	3,340	4,050	3,710	3,450	4,320	4,750	4,280	5,410	5,610	4,760	6,210	6,960	6,010				
Manganese	577	615	592	585	581	658	565	598	619	582	608	631	566	500	539	531	426	510	475	478	603	484				
Nickel	13.6	13.9	13.2	13.7	13.3	14.2	11.9	13.5	14.6	13.3	15.9	15.1	13.4	14.4	15.1	14.6	13.4	15.1	14.2	13.9	17	14.2				
Potassium	3,130	3,130	3,070	3,320	2,900	3,270	2,740	2,900	2,840	2,820	3,110	2,600	2,540	2,450	2,390	2,570	1,900	2,030	2,000	1,780	2,000	1,850				
Selenium	0.88	0.88 U	0.69 U	1.2 J	0.67 U	0.77 U	0.66 U	0.68 U	0.94	0.71 U	0.95 U	0.79 U	0.77 U	0.92 U	0.81 U	0.83 U	0.75 U	0.92 U	0.76 U	0.68 U	0.95 U	1 U				
Sodium	200 U	240 U	190 U	220 U	180 U	210 U	180 U	240 U	220 U	200 U	260 U	220 U	210 U	250 U	220 U	230 U	210 U	250 U	210 U	190 U	260 U	280 U				
Thallium	0.48 U	0.58 U	0.45 U	0.52 U	0.44 U	0.5 U	0.43 U	0.57 U	0.53 U	0.46 U	0.62 U	0.51 U	0.5 U	0.6 U	0.54 U	0.49 U	0.6 U	0.49 U	0.45 U	0.62 U	0.65 U					
Vanadium	18.3	19.5	17.1	22.7	16.3	19.3	15.4	18.2	20.8	18.5	21.4	21.2	17.9	17.8	19	19.1	16	19.1	18.5	16.5	23.4	19.7				
General Chemistry																										
Fluoride (mg/kg)	3	2.9	2.8	3.1	2.6	2.2	2.2	1.8	2.6	2.9	2	2.2	2	2.2	1.9	1.6	1.4	2	1.7	1.8	1.9	1.7	1.5			
pH (s.u.)	6.18	6.14	6.04	6.07	6.19	5.94	5.88	6.4	6.76	7.11	7.42	7.38	7.37	7.63	7.7	7.88	7.68	7.83	8.04	7.9	7.98	8				

Background DU:		SOUTH PROPERTY					
Sample:	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	
Sample Date:</							

Table 3

Relative Standard Deviations (RSDs) for Background Soil Samples
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho (a)

Background DU: Depth:	NORTH 0-2 in	CENTRAL 0-2 in	SOUTH 0-2 in	NORTH 2-6 in	CENTRAL 2-6 in	SOUTH 2-6 in	NORTH 0.5-1 ft	CENTRAL 0.5-1 ft	SOUTH 0.5-1 ft	NORTH 1-1.5 ft	CENTRAL 1-1.5 ft	SOUTH 1-1.5 ft	NORTH 1.5-2 ft	CENTRAL 1.5-2 ft	SOUTH 1.5-2 ft	NORTH 2-2.5 ft	CENTRAL 2-2.5 ft	SOUTH 2-2.5 ft	NORTH 2.5-3 ft	CENTRAL 2.5-3 ft	SOUTH 2.5-3 ft	NORTH 3-3.5 ft	CENTRAL 3-3.5 ft	SOUTH 3-3.5 ft	NORTH 3.5-4 ft	CENTRAL 3.5-4 ft	SOUTH 3.5-4 ft
Parameters (mg/kg)																											
	%RSD (full detection limits for Sb, Cd, Se, Na, and Tl)																										
Aluminum	2.9	3.0	8.1	9.2	8.5	10.7	5.8	15.4	5.4	8.9	10.8	7.0	2.8	3.0	3.4	8.8	7.7	6.2	4.1	7.0	10.9	1.4	13.5	4.9	1.7	13.1	16.0
Antimony	6.8	1.4	9.5	10.0	5.8	7.6	19.4	2.2	10.0	15.0	5.6	13.2	22.8	1.6	6.8	13.2	21.8	12.2	16.9	1.4	19.8	7.3	10.3	13.6	6.4	18.2	10.7
Arsenic	8.1	10.7	11.2	8.5	7.5	10.3	7.0	6.0	14.1	5.5	23.4	9.4	17.4	5.2	18.2	10.8	3.2	8.2	3.8	7.9	16.4	7.8	7.4	9.3	15.9	18.3	11.0
Barium	4.3	3.8	1.1	7.0	8.0	7.8	4.8	4.8	2.1	5.8	6.9	4.2	6.2	1.7	5.6	7.5	3.1	5.6	1.7	4.1	10.5	2.9	3.7	11.3	8.4	9.5	12.7
Beryllium	3.5	4.0	3.7	8.2	9.7	10.7	4.6	7.9	5.3	7.5	6.2	12.8	4.9	2.3	3.8	5.0	3.1	6.2	3.5	2.2	10.3	0.9	8.3	1.3	0.9	10.4	15.7
Cadmium	8.5	27.0	10.1	18.2	1.5	32.1	12.2	0.0	43.4	14.1	5.6	55.0	14.3	0.0	51.9	13.2	20.8	55.4	19.6	2.7	60.5	8.7	10.1	59.3	7.9	16.5	50.3
Calcium	3.1	54.0	3.9	9.2	10.7	9.1	15.0	4.1	14.8	39.5	38.8	8.8	43.5	20.6	24.6	38.1	14.0	8.6	28.6	27.9	3.7	23.0	4.3	10.2	19.6	23.7	13.2
Chromium	4.4	5.4	10.3	9.8	9.4	13.1	7.5	10.9	9.5	7.3	10.2	12.1	6.3	1.2	2.0	6.9	9.6	3.9	0.7	6.1	11.3	2.1	7.7	3.6	2.7	15.1	20.2
Iron	3.3	5.0	7.2	7.8	8.8	9.0	7.5	8.4	7.7	6.8	12.3	10.4	7.5	2.3	6.8	11.5	7.7	1.0	6.1	11.3	3.2	2.9	5.3	3.0	17.4	18.1	
Lead	4.3	5.1	4.7	9.6	10.2	4.3	3.4	1.5	6.4	4.0	1.6	4.9	8.9	2.6	4.1	5.1	5.6	3.2	6.4	1.2	8.4	4.9	4.2	3.8	2.5	5.5	8.8
Magnesium	2.4	9.9	4.7	8.0	7.4	6.8	7.1	8.5	5.6	5.6	14.3	8.1	7.4	4.8	5.9	11.9	3.2	8.4	12.8	9.8	7.8	16.7	8.9	5.3	20.1	22.1	5.3
Manganese	6.2	4.9	0.9	9.6	7.6	8.3	4.5	2.8	3.1	6.0	1.7	5.5	8.5	4.3	3.9	6.2	4.9	9.0	9.1	3.6	13.5	16.5	5.0	9.4	15.7	12.0	23.7
Nickel	3.5	5.7	2.2	7.6	7.3	8.8	5.5	4.2	5.1	6.4	7.0	8.6	6.2	2.5	5.0	6.4	6.0	3.2	1.3	11.4	3.0	9.3	11.5	5.6	12.4	18.7	
Potassium	1.8	17.8	4.1	8.5	8.5	9.2	4.7	13.5	1.5	11.4	9.2	11.4	8.0	3.1	3.7	7.2	5.6	3.4	7.7	4.2	6.0	9.4	13.8	5.1	4.2	9.2	11.1
Selenium	7.6	10.1	27.9	10.5	17.6	8.7	19.2	2.7	14.1	14.5	4.8	11.8	21.9	1.4	6.9	14.4	21.1	11.8	17.0	2.4	19.6	7.7	17.7	13.8	15.2	17.7	10.3
Sodium	6.8	2.7	8.2	10.6	6.0	9.1	19.2	2.3	9.1	14.4	5.0	11.5	21.8	0.0	6.5	12.0	20.3	10.3	17.8	2.5	19.4	7.9	2.4	12.6	7.0	29.5	23.4
Thallium	6.8	3.0	8.7	10.1	6.3	8.3	18.8	1.7	10.7	14.2	5.3	12.3	22.6	1.2	6.8	14.3	20.7	12.1	17.7	2.8	18.8	7.3	10.8	13.3	7.1	17.7	10.2
Vanadium	5.0	7.9	14.6	11.0	7.3	12.0	8.2	11.3	7.4	8.4	21.3	9.7	11.4	3.1	3.9	11.9	9.2	9.2	2.3	6.5	17.4	7.6	12.2	10.0	2.9	23.0	17.5
Fluoride	14.2	12.3	5.1	31.9	16.4	9.9	7.1	15.6	23.4	10.8	32.7	5.6	24.0	23.6	15.4	7.4	16.6	8.3	7.2	22.5	11.8	12.3	12.4	8.8	22.3	10.6	10.5
pH (s.u.)	2.8	1.9	1.0	3.5	5.1	2.7	2.8	0.2	5.3	2.8	0.8	0.4	1.9	0.5	1.7	0.5	0.5	2.3	1.0	1.0	0.7	0.8	0.3	1.6	0.3	0.9	2.2
Parameters (mg/kg)																											
	%RSD (1/2 detection limits for Sb, Cd, Se, Na, and Tl)																										
Antimony	8.4	26.1	9.5	10.0	5.8	7.6	19.4	2.2	10.0	15.0	5.6	13.2	22.8	1.6	6.8	13.2	54.9	12.2	16.9	1.4	19.8	7.3	10.3	13.6	6.4	18.2	10.7
Cadmium	10.4	22.0	10.1	18.2	1.5	32.1	30.5	0.0	43.4	14.1	5.6	70.0	47.5	0.0	68.0	13.2	20.8	70.0	19.6	2.7	73.2	8.7	10.1	72.3	7.9	16.5	50.3
Selenium	48.8	41.4	70.8	10.5	46.4	8.7	19.2	45.8	54.7	14.5	4.8	11.8	21.9	1.4	6.9	14.4	21.1	11.8	17.0	2.4	19.6	7.7	45.7	13.8	15.2	17.7	10.3
Sodium	8.3	2.7	8.2	10.6	6.0	9.1	19.2	2.3																			

Table 4

**Summary of Regression Values for Background Soil
Sample Concentrations and Depths**
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Background DU:	<u>NORTH</u>	<u>CENTRAL</u>	<u>SOUTH</u>
<u>Parameters</u>			
Aluminum	-0.68	-0.01	-0.14
Antimony	na	na	na
Arsenic	-0.43	+0.67	+0.49
Barium	+0.43	+0.31	+0.74
Beryllium	-0.6	+0.38	-0.22
Cadmium	-0.56	-0.47	-0.37
Calcium	+0.94	+0.92	+0.86
Chromium	-0.72	-0.14	-0.55
Iron	-0.56	0.0	-0.3
Lead	-0.47	-0.79	-0.22
Magnesium	+0.93	+0.9	+0.94
Manganese	0.0	-0.67	+0.20
Nickel	+0.2	+0.38	+0.74
Potassium	-0.97	-0.78	-0.98
Selenium	na	na	na
Sodium	na	na	na
Thallium	na	na	na
Vanadium	-0.42	+0.03	+0.34
Fluoride	+0.78	0.0	-0.64
pH	+0.86	+0.77	+0.83

Bold and italicized values indicate R² greater than 0.80

a/ DU = decision unit; "na" indicates insufficient detections for statistical analysis;
 "-" and "+" indicate whether the trend is decreasing or increasing with depth.
 Refer to Attachment 2b for graphical displays.

Table 5

Summary of Statistical Evaluation of Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Sample Intervals: Background DUs: <u>Parameters</u>	Results																			
	0-2 inches				2-6 inches				0.5-1 foot				1-1.5 feet				1.5-2 feet			
	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>		
Aluminum	DIFFERENT	SAME	DIFFERENT	SAME	SAME	DIFFERENT	DIFFERENT	DIFFERENT												
Antimony	SAME	SAME	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	SAME								
Arsenic	SAME	DIFFERENT	SAME	SAME	DIFFERENT	DIFFERENT	SAME	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	SAME	SAME	SAME	SAME	SAME		
Barium	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME	SAME	DIFFERENT	DIFFERENT	SAME								
Beryllium	DIFFERENT	SAME	DIFFERENT	SAME	DIFFERENT	SAME	DIFFERENT													
Cadmium	DIFFERENT	SAME	DIFFERENT	SAME	DIFFERENT	SAME	DIFFERENT	SAME												
Calcium	SAME	SAME	DIFFERENT	SAME																
Chromium	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME											
Iron	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME													
Lead	DIFFERENT	SAME	DIFFERENT	SAME	SAME	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	SAME								
Magnesium	SAME																			
Manganese	DIFFERENT	SAME	DIFFERENT	SAME	SAME	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME								
Nickel	SAME	DIFFERENT	SAME	DIFFERENT																
Potassium	SAME	SAME	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME										
Selenium	SAME	DIFFERENT	SAME	SAME																
Sodium	SAME	SAME	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	SAME	SAME											
Thallium	SAME	SAME	SAME	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	SAME	SAME										
Vanadium	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	SAME	SAME													
Fluoride	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME											
pH	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	SAME	SAME	DIFFERENT	DIFFERENT	SAME	SAME	SAME	SAME	SAME	DIFFERENT	DIFFERENT	SAME		
Sample Intervals: Background DUs: <u>Parameters</u>	Results																			
	2-2.5 feet				2.5-3 feet				3-3.5 feet				3.5-4 feet				ALL DEPTHS			
	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>	<u>S vs C</u>	<u>C vs N</u>	<u>S vs N</u>		
Aluminum	SAME	DIFFERENT	SAME	DIFFERENT																
Antimony	SAME																			
Arsenic	SAME	DIFFERENT	DIFFERENT	DIFFERENT																
Barium	DIFFERENT	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	DIFFERENT												
Beryllium	SAME	DIFFERENT	SAME	DIFFERENT																
Cadmium	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	DIFFERENT													
Calcium	SAME	DIFFERENT	SAME	SAME	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	DIFFERENT	SAME								
Chromium	SAME	DIFFERENT	SAME	SAME	SAME	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME										
Iron	SAME	DIFFERENT	DIFFERENT	SAME																
Lead	DIFFERENT	DIFFERENT	SAME	SAME	SAME	SAME	SAME	SAME	DIFFERENT	SAME	SAME	SAME	DIFFERENT	SAME	SAME	DIFFERENT	DIFFERENT	DIFFERENT		
Magnesium	SAME	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	DIFFERENT												
Manganese	DIFFERENT	DIFFERENT	SAME	SAME	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	SAME	DIFFERENT	DIFFERENT	DIFFERENT		
Nickel	SAME																			
Potassium	DIFFERENT	DIFFERENT	SAME																	
Selenium	SAME																			
Sodium	SAME																			
Thallium	SAME																			
Vanadium	SAME	DIFFERENT	DIFFERENT	DIFFERENT																
Fluoride	SAME	DIFFERENT	SAME	SAME	SAME	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME										
pH	SAME	DIFFERENT	SAME	SAME	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME								

a/ "DU" = decision unit; "S" = South; "C" = Central; "N" = North.

"SAME" = Hypothesis that the population mean concentrations for two DUs are equal is not rejected (95% significance, 2-tailed), based on Student t test using pooled estimate of the variance.

"DIFFERENT" = Hypothesis that the population mean concentrations for two DUs are equal is rejected (95% significance, 2-tailed), based on Student t test using pooled estimate of the variance.

Refer to Attachment 2c for detailed information.

Table 6

Summary of Calculated 95% UCLs of the Means for Background Soil Samples
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Parameters	Sample Intervals									Composited Intervals			
	0-2 in-bgs	2-6 in-bgs	0.5-1 ft-bgs	1-1.5 ft-bgs	1.5-2 ft-bgs	2-2.5 ft-bgs	2.5-3 ft-bgs	3-3.5 ft-bgs	3.5-4 ft-bgs	0-6 in-bgs (b)	0-2 ft-bgs (b)	2-4 ft-bgs	All Depths (b)
Metals (mg/kg)													
Aluminum	13,255	13,499	13,810	14,159	13,279	12,428	12,659	12,585	12,903	13,164	13,134	12,230	12,582
Antimony	0.20	0.21	0.23	0.22	0.21	0.22	0.23	0.22	0.21	0.21	0.21	0.21	0.21
Arsenic	3.6	3.5	3.5	3.6	3.3	3.3	3.4	3.5	3.8	3.5	3.3	3.4	3.3
Barium	140	145	142	138	140	146	159	169	192	143	137	162	149
Beryllium	0.78	0.77	0.78	0.80	0.76	0.71	0.73	0.75	0.84	0.77	0.75	0.74	0.74
Cadmium	0.56	0.68	0.57	0.47	0.43	0.40	0.41	0.45	0.46	0.63	0.43	0.33	0.35
Calcium	5,424	4,259	5,299	8,230	14,490	24,073	33,039	32,851	34,660	4,587	8,083	28,744	18,996
Chromium	16.8	16.8	17.3	17.3	16.1	15.4	15.3	14.8	15.3	16.4	16.2	14.7	15.3
Iron	13,152	13,376	13,687	13,788	13,104	12,572	12,584	12,585	13,514	13,059	13,011	12,453	12,634
Lead	12.7	12.7	12.9	11.9	11.6	11.0	10.7	11.6	12.2	12.6	12.0	11.1	11.4
Magnesium	3,469	3,493	3,631	3,821	4,336	5,127	6,162	6,699	7,233	3,464	3,757	6,029	4,938
Manganese	576	596	587	560	502	464	498	615	830	587	540	565	543
Nickel	13.5	13.7	14.1	14.4	14.1	13.9	14.6	16.4	18.2	13.5	13.7	15.2	14.4
Potassium	3,124	3,134	2,918	2,696	2,457	2,061	1,902	1,731	1,633	3,040	2,717	1,794	2,275
Selenium	0.86	0.84	0.68	0.44	0.43	0.45	0.46	0.47	0.44	0.80	0.54	0.43	0.48
Sodium	110	117	124	121	116	122	127	184	247	114	114	159	135
Thallium	0.26	0.28	0.29	0.29	0.28	0.29	0.30	0.29	0.27	0.27	0.27	0.28	0.27
Vanadium	19.5	18.9	19.3	19.7	18.3	18.1	19.2	19.9	21.3	18.5	18.2	18.8	18.3
General Chemistry													
Fluoride (mg/kg)	3.1	3.2	2.6	2.2	2.2	2.3	2.6	3.1	3.1	3.2	2.3	2.6	2.4
pH (s.u.) (c)	6.15-6.36	6.16-6.70	6.88-7.40	7.42-7.66	7.59-7.87	7.74-8.01	7.85-8.08	7.89-8.11	7.93-8.11	6.17-6.57	7.02-7.36	7.91-8.02	7.70-7.46

Bold and italicized value indicates the highest calculated 95% UCL of the mean

a/ in-bgs = inches below ground surface; ft-bgs = feet below ground surface; mg/kg = milligrams per kilogram; s.u. = standard unit.

Refer to Attachment 3 for calculations.

b/ Weighted values.

c/ The minimum and maximum pH values are 6.15 s.u. and 8.11 s.u.

Table 7a
Summary of Human Health and Ecological Soil Screening Levels
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Parameters	Human Health Screening Levels			EPA Eco-SSLs (b)			
	EPA Soil RSLs (c) Residential	EPA Soil RSLs (c) Industrial	IDEQ REM IDTL/ Critical Pathway (d)	Plants	Soil Invertebrates	Wildlife Avian	Wildlife Mammalian
Metals (mg/kg)							
Aluminum	7,700	99,000 nm	-	- (e)	- (e)	- (e)	- (e)
Antimony	3.1 n	41 n	4.77 GWP	-	78	-	0.27
Arsenic	0.39 c	1.6 c	0.39 SS	18	-	43	46
Barium	1,500 n	19,000 nm	896 GWP	-	330	-	2,000
Beryllium	16 n	200 n	1.63 GWP	-	40	-	21
Cadmium	7 n (f)	80 n (f)	1.35 GWP	32	140	0.77	0.36
Calcium	- (g)	- (g)	- (g)	-	-	-	-
Chromium (total)	12,000 nm	150,000 nm	2,130 GWP	-	-	26 (h)	34 (h)
Iron	5,500 n	72,000 nm	5.76 GWP	- (i)	- (i)	- (i)	- (i)
Lead	40 n	80 n	49.6 GWP	120	1,700	11	56
Magnesium	- (g)	- (g)	- (g)	-	-	-	-
Manganese	180 n (f)	2,300 n (f)	223 GWP	220	450	4,300	4,000
Nickel	150 n	2,000 n	59.1 GWP	38	280	210	130
Potassium	- (g)	- (g)	- (g)	-	-	-	-
Selenium	39 n	510 n	2.03 GWP	0.52	4.1	1.2	0.63
Sodium	- (g)	- (g)	- (g)	-	-	-	-
Thallium	0.078 n	1 n	1.55 GWP	-	-	-	-
Vanadium	39 n	520 n	-	-	-	7.8	280
General Chemistry (mg/kg)							
Fluoride (total)	310 n	4,100 n	7.36 (j) GWP	-	-	-	-
pH (s.u.)	- (g)	- (g)	- (g)	- (e,i)	- (e,i)	- (e,i)	- (e,i)

The EPA screening values provided for non-carcinogenic parameters (n) are 1/10th of the published screening levels to account for cumulative adverse effects.

Table 7a (continued)

Summary of Human Health and Ecological Soil Screening Levels
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho

a/ Eco-SSLs = ecological soil screening levels; EPA = U.S. Environmental Protection Agency; IDEQ = Idaho Department of Environmental Quality; RSL = regional screening level; REM = Risk Evaluation Manual; IDTL = Idaho Default Screening Level; mg/kg = milligrams per kilograms; s.u. = standard units; pCi/g = picocuries per gram; "-" indicates screening level not developed; "n" indicates RSL based on non-carcinogenic toxicity; "m" indicates RSL may exceed the ceiling limit; "c" indicates RSL based on carcinogenic toxicity; SS indicates surficial soil as the critical pathway; GWP indicates groundwater as the critical pathway

b/ Eco-SSLs are available online at <http://www.epa.gov/ecotox/ecoss/>

c/ EPA RSLs are available online at: http://www.epa.gov/req3hwmd/risk/human/rb-concentration_table/index.htm (June 2011).

Table 3a of the Work Plan Addendum incorrectly calculated 1/10th the SSLs for several parameters, these values and the correct values are:

<u>Pathway</u>	<u>Parameter</u>	<u>Incorrect Value</u>	<u>Correct Value</u>
Residential	Pb	400 mg/kg	40 mg/kg
	Mn	1,800 mg/kg	180 mg/kg
Industrial	Sb	4.1 mg/kg	41 mg/kg
	Ba	1,900 mg/kg	19,000 mg/kg
	Be	20 mg/kg	200 mg/kg
	Cr	15,000 mg/kg	150,000 mg/kg
	Fe	7,200 mg/kg	72,000 mg/kg
	Pb	800 mg/kg	80 mg/kg
	Ni	200 mg/kg	2,000 mg/kg
	Se	51 mg/kg	510 mg/kg
	Tl	0.1 mg/kg	1 mg/kg
	V	52 mg/kg	520 mg/kg
	F-	410 mg/kg	4,100 mg/kg

d/ Idaho REM; available online at http://www.deq.idaho.gov/Applications/Brownfields/download/appx_all.pdf (July 2004).

e/ The Eco-SSL for aluminum is based on soil pH because the potential toxicity or bioaccumulation cannot be reliably predicted based on total aluminum concentrations.

Therefore, the eco-SSL is identified as a site soil pH less than 5.5 s.u. If the pH is less than 5.5 s.u., aluminum should be retained as a constituent of potential concern.

f/ The RSL for diet is reported for cadmium; the RSL for non-diet is reported for manganese.

g/ To determine potential impacts from the releases, sample concentrations for these parameters will be compared to background concentrations.

h/ The values are for trivalent chromium.

i/ Due to the complex nature of the bioavailability of iron to plants and dependence on site-specific soil conditions, a benchmark for iron was not developed.

To evaluate iron, site-specific measurements of pH and Eh should be used to determine the expected valence state of iron and resulting bioavailability and toxicity.

Generally, in well-aerated soils, a pH between 5 and 8 s.u. is not expected to be toxic for iron.

j/ The IDTL is for sodium fluoride.

Table 7b

**Summary of Ecological Benchmark Screening Levels
(Ecological Screening Benchmarks)**
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Parameters	Ecological Screening Benchmark Reports (b)									
	Wildlife (c)									
	<u>Little Brown Bat</u>	<u>Short-Tailed Shrew</u>	<u>White-Footed Mouse</u>	<u>Meadow Vole</u>	<u>Mink</u>	<u>Cottontail Rabbit</u>	<u>Red Fox</u>	<u>Whitetail Deer</u>	<u>Rough-Winged Swallow</u>	<u>American Robin</u>
Metals (mg/kg)										
Thallium	0.059	0.027	0.097	0.111	0.042	0.028	0.039	0.068	-	-
General Chemistry (mg/kg)										
Fluoride (total)	319.8	149.4	527.1	602.7	229	151.8	215.4	371.5	-	-
Ecological Screening Benchmark Reports										
Parameters							Soil Invertebrates and Microbial Processes			
	<u>American Woodcock</u>	<u>Cooper's Hawk</u>	<u>Barn Owl</u>	<u>Barred Owl</u>	<u>Red-Tailed Hawk</u>	<u>Wild Turkey</u>	<u>Terrestrial Plants</u>	<u>Earthworms</u>	<u>Micro-Organisms and Microbial Processes</u>	
Metals (mg/kg)										
Thallium	-	-	-	-	-	-	1	-	-	-
General Chemistry (mg/kg)										
Fluoride (total)	10.3	45.1	29.1	66.6	80.6	260	200 (d)	-	-	-

a/ EPA = U.S. Environmental Protection Agency; mg/kg = milligrams per kilogram; "-" indicates screening level not developed.
Screening levels for belted king fisher, river otter, great blue heron, and osprey are not shown as the release areas do not support their habitats.

b/ Ecological screening benchmark reports available online at: http://www.esd.ornl.gov/programs/ecorisk/benchmark_reports.html.

Ecological screening benchmarks reported, where available, only for those constituents for which no EPA Ecological Soil Screening Level is available.

c/ A No Observed Adverse Effect Level (NOAEL) based benchmark for soil is not available; therefore the NOAEL-based benchmark for food is reported.
A plant uptake factor must be applied to soil data for comparison to the food NOAEL-based benchmark.

d/ The ecological benchmark for fluorine is reported.

Table 7c
Summary of Preliminary Remediation Goals for Ecological Endpoints
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

<u>Parameters</u>	<u>Preliminary Remediation Goals (mg/kg) (b)</u>			
	<u>Short-Tailed Shrew</u>	<u>White-Footed Mouse</u>	<u>Red Fox</u>	<u>Whitetail Deer</u>
Metals				
Thallium	2.1	48.5	3.56	34
General Chemistry				
Fluoride (total)	-	-	-	-

a/ mg/kg = milligrams per kilogram; "-" indicates screening level not developed.
 Screening levels for belted king fisher, river otter, great blue heron, and osprey
 are not shown as the release areas do not support their habitats.

b/ Preliminary remediation goals available at:

<http://www.esd.ornl.gov/programs/ecorisk/documents/tm162r2.pdf>

Table 8a

Summary of Human Health Screening Levels and Comparative Values
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Parameters	Human Health Screening Levels		Highest 95% UCLs for Background (d)	Proposed Human Health CVs (e)
	EPA Industrial Soil RSL (b)	IDEQ REM IDTL/ Critical Pathway (c)		
Metals (mg/kg)				
Aluminum	99,000 nm	-	14,159	99,000
Antimony	41 n	4.77 GWP	0.23	4.77
Arsenic	1.6 c	0.39 SS	3.8	3.8
Barium	19,000 nm	896 GWP	192	896
Beryllium	200 n	1.63 GWP	0.84	1.63
Cadmium	80 n (f)	1.35 GWP	0.68	1.35
Calcium	- (g)	- (g)	34,660	- (g)
Chromium (total)	150,000 nm	2,130 GWP	17.3	2,130
Iron	72,000 nm	5.76 GWP	13,788	13,788
Lead	80 n	49.6 GWP	12.9	49.6
Magnesium	- (g)	- (g)	7,233	- (g)
Manganese	2,300 n (f)	223 GWP	830	830
Nickel	2,000 n	59.1 GWP	18.2	59.1
Potassium	- (g)	- (g)	3,134	- (g)
Selenium	510 n	2.03 GWP	0.86	2.03
Sodium	- (g)	- (g)	247	-
Thallium	1 n	1.55 GWP	0.30	1.55
Vanadium	520 n	-	21.3	520
General Chemistry (mg/kg)				
Fluoride (total)	4,100 n	7.36 (h) GWP	3.2	7.36
pH (s.u.)	- (g)	- (g)	6.15 - 8.11 (i)	- (g)

Bold and italicized values are CVs based on background

The EPA screening values provided for non-carcinogenic parameters (n) are 1/10th of the published screening levels to account for cumulative adverse effects.

a/ EPA = U.S. Environmental Protection Agency; IDEQ = Idaho Department of Environmental Quality; REM = Risk Evaluation Manual; IDTL = Idaho Default Screening Level; CV = comparative value; UCL = 95% upper confidence level (of the mean); mg/kg = milligrams per kilograms; s.u. = standard units; "-" indicates screening level not developed;

"n" indicates screening level based on non-carcinogenic toxicity; the values shown are 1/10th of the published screening levels to account for cumulative adverse effects

"m" indicates RSL may exceed the ceiling limit; "c" indicates RSL based on carcinogenic toxicity;

SS indicates surficial soil as the critical pathway

GWP indicates groundwater as the critical pathway

b/ EPA RSLs are available online at: http://www.epa.gov/req3hwmd/risk/human/rb-concentration_table/index.htm (June 2011).

c/ Idaho REM; available online at http://www.deq.idaho.gov/Applications/Brownfields/download/appx_all.pdf (July 2004).

d/ Refer to Table 6.

e/ The CVs represent the higher of the screening and background values.

f/ The RSL for diet is reported for cadmium; the RSL for non-diet is reported for manganese.

g/ There are no CVs for these parameters; the background concentrations will be compared to data for the release area decision units to evaluate potential impacts.

h/ The IDTL is for sodium fluoride.

i/ These values represent the 95% LCL (lower confidence level) and 95% UCL.

Table 8b

Summary of Ecological Soil Screening Levels and Comparative Values
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Parameters	Ecological Screening Benchmark Reports (b)												Proposed Ecological CVs (f)	
	EPA Eco-SSLs (c)				Micro-Organisms and Microbial Processes				Preliminary Remediation Goals (d)					
	Plants	Soil Invertebrates	Wildlife Avian	Wildlife Mammalian	Terrestrial Plants	Earthworms	Organisms and Microbial Processes	Short-Tailed Shrew	White-Footed Mouse	Red Fox	Whitetail Deer			
Metals (mg/kg)														
Aluminum	- (g)	- (g)	- (g)	- (g)	-	-	-	-	-	-	-	14,159	- (g)	
Antimony	-	78	-	0.27	-	-	-	-	-	-	-	0.23	0.27	
Arsenic	18	-	43	46	-	-	-	-	-	-	-	3.8	18	
Barium	-	330	-	2,000	-	-	-	-	-	-	-	192	330	
Beryllium	-	40	-	21	-	-	-	-	-	-	-	0.84	21	
Cadmium	32	140	0.77	0.36	-	-	-	-	-	-	-	0.68	0.68	
Calcium	-	-	-	-	-	-	-	-	-	-	-	34,660	-	
Chromium (total)	-	-	26 (h)	34 (h)	-	-	-	-	-	-	-	17.3	26	
Iron	- (i)	- (i)	- (i)	- (i)	-	-	-	-	-	-	-	13,788	- (i)	
Lead	120	1,700	11	56	-	-	-	-	-	-	-	12.9	12.9	
Magnesium	-	-	-	-	-	-	-	-	-	-	-	7,233	-	
Manganese	220	450	4,300	4,000	-	-	-	-	-	-	-	830	830	
Nickel	38	280	210	130	-	-	-	-	-	-	-	18.2	38	
Potassium	-	-	-	-	-	-	-	-	-	-	-	3,134	-	
Selenium	0.52	4.1	1.2	0.63	-	-	-	-	-	-	-	0.86	0.86	
Sodium	-	-	-	-	-	-	-	-	-	-	-	247	-	
Thallium	-	-	-	-	1	-	-	2.1	48.5	3.56	34	0.30	1	
Vanadium	-	-	7.8	280	-	-	-	-	-	-	-	21.3	21.3	
General Chemistry (mg/kg)														
Fluoride (total)	-	-	-	-	200 (j)	-	-	-	-	-	-	3.2	200	
pH (s.u.)	- (g,i)	- (g,i)	- (g,i)	- (g,i)	-	-	-	-	-	-	-	6.15 - 8.11 (k)	- (g,i)	

Bold and italicized values are CVs based on background

a/ EPA = U.S. Environmental Protection Agency; eco-SSLs = ecological soil screening levels; UCL = upper confidence level (of the mean); CV = comparative value; mg/kg = milligrams per kilogram; s.u. = standard unit.

b/ Ecological screening benchmark reports available online at: http://www.esd.ornl.gov/programs/ecorisk/benchmark_reports.html. Ecological screening benchmarks reported, where available, only for those constituents for which no EPA eco-SSLs are available.

c/ Eco-SSLs are available online at <http://www.epa.gov/ecoss/>

d/ Preliminary remediation goals available online at <http://www.esd.ornl.gov/programs/ecorisk/documents/tm162r2.pdf>

e/ Refer to Table 6.

f/ The CVs represent the higher of the screening and background values.

g/ The Eco-SSL for aluminum is based on soil pH because the potential toxicity or bioaccumulation cannot be reliably predicted based on total aluminum concentrations. Therefore, the eco-SSL is identified as a site soil pH less than 5.5 s.u. If the pH is less than 5.5 s.u., aluminum should be retained as a constituent of potential concern.

h/ The values are for trivalent chromium.

i/ Due to the complex nature of the bioavailability of iron to plants and dependence on site-specific soil conditions, a benchmark for iron was not developed.

To evaluate iron, site-specific measurements of pH and Eh should be used to determine the expected valence state of iron and resulting bioavailability and toxicity.

Generally, in well-aerated soils, a pH between 5 and 8 s.u. is not expected to be toxic for iron.

j/ The ecological benchmark for fluorine is reported.

k/ These values represent the 95% LCL (lower confidence level) and 95% UCL.

Attachment 1

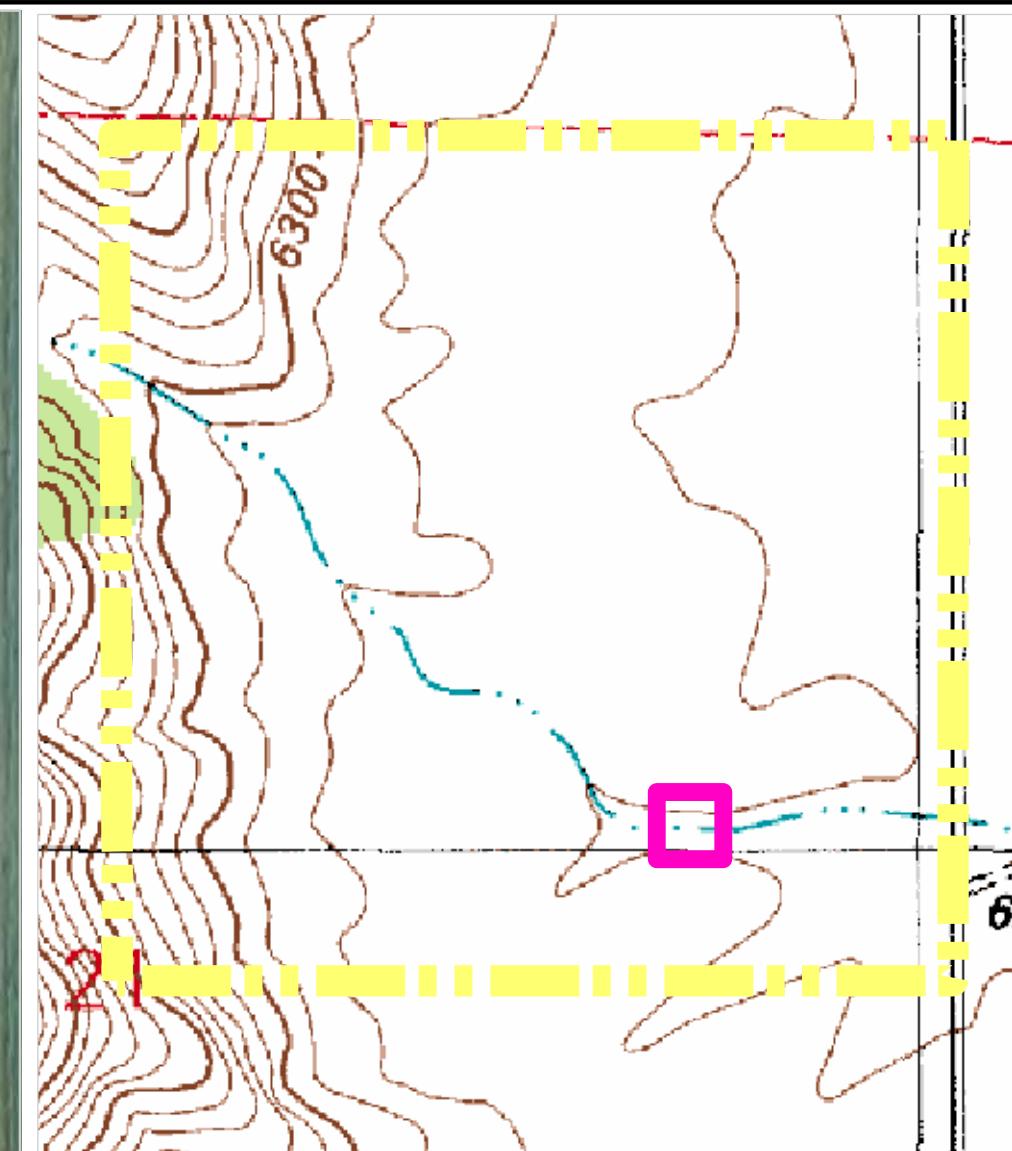


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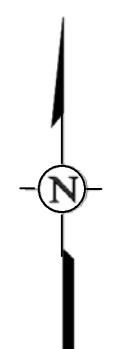
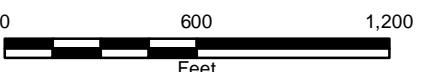
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B

REFERENCE: <http://cloud.insideidaho.org/index.html> NAIP, 2009 1-METER NATURAL COLOR ORTHOIMAGERY FOR IDAHO

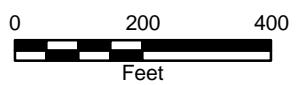


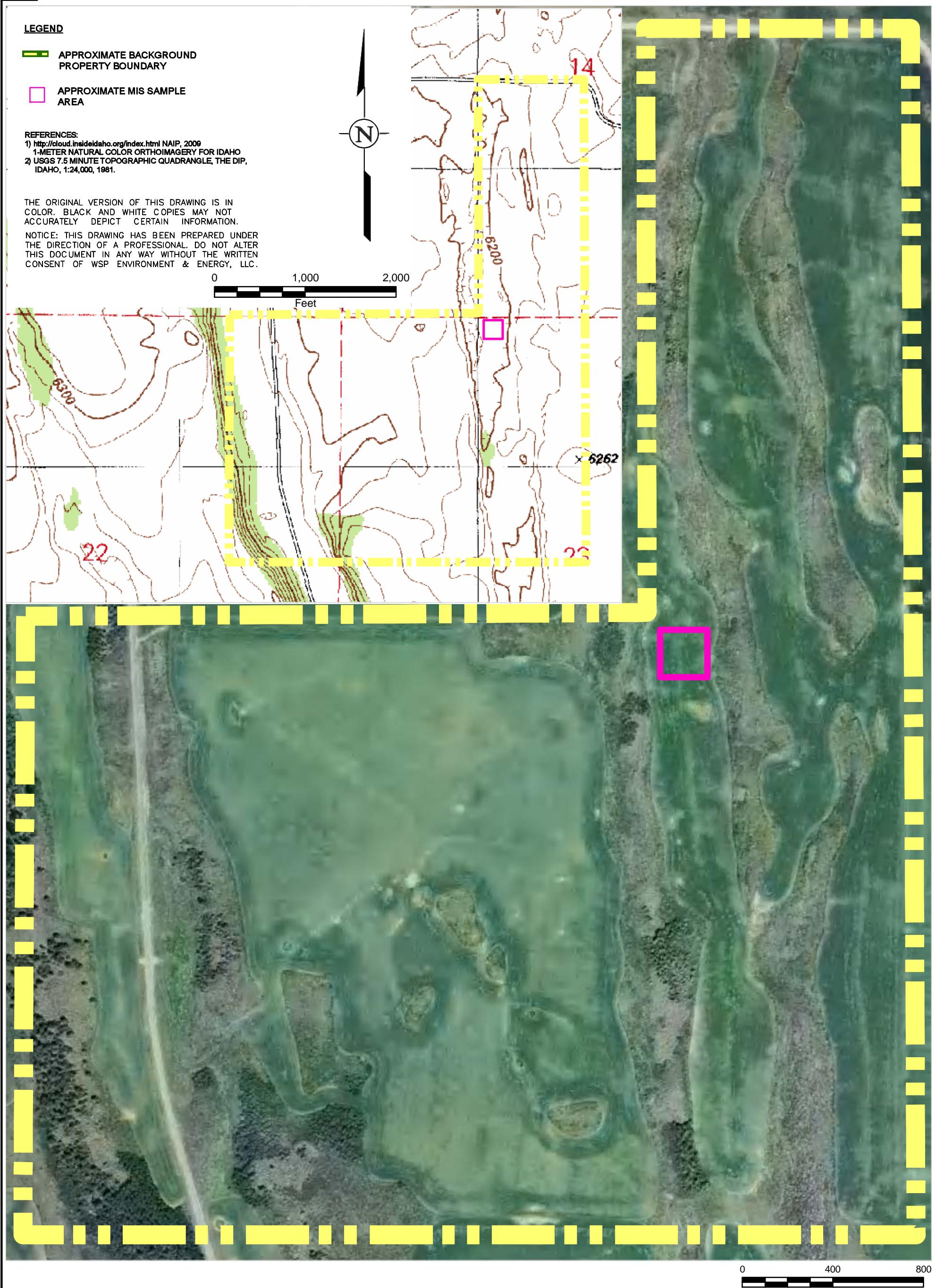
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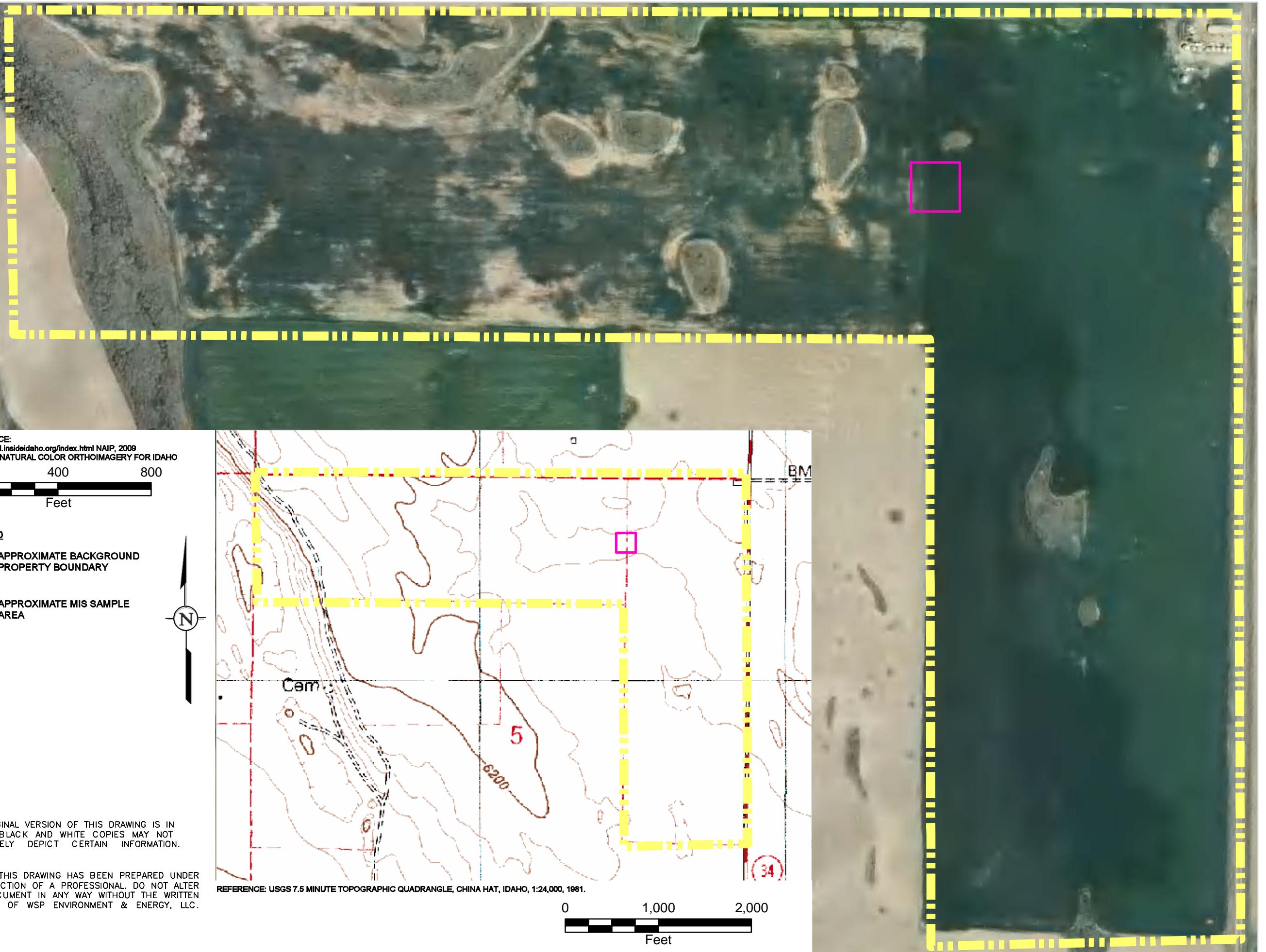


LEGEND
— APPROXIMATE BACKGROUND
PROPERTY BOUNDARY

□ APPROXIMATE MIS SAMPLING AREA



B



B

WSP WSP Environment & Energy 4600 South Ulster Street Suite 930 Denver, Colorado 80237 (303) 850-9200 www.wspenvironmental.com/us	FIGURE 7c SOUTH PROPERTY, MIS SAMPLE GRID AREA	Drawn By: CEP <i>09/11</i> Checked: Approved: MXD Name: 4180 ARCB07
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Attachment 2

Attachment 2a

Relative Standard Deviations Calculations for Background Soil Samples
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)

Bold and italicized value indicates %RSD greater than 30

Attachment 2a (continued)

Relative Standard Deviations Calculations for Background Soil Samples
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho

Background DU:		CENTRAL PROPERTY																											
Sample Date:	CENTRAL	CENTRAL	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2	CENTRAL	CENTRAL T1	CENTRAL T2
Sample Date:	10/19/11	10/19/11	AVERAGE	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	10/19/11	
Depth:	0-2 in (b)	0-2 in (b)	0-2 in (b)	0-2 in	0-2 in	2-6 in	2-6 in	0.5-1 ft	0.5-1 ft	1-1.5 ft	1-1.5 ft	1.5-2 ft	1.5-2 ft	2-2.5 ft	2-2.5 ft	2.5-3 ft	2.5-3 ft	2.5-3 ft	2.5-3 ft	2.5-3 ft	2.5-3 ft	3-3.5 ft	3-3.5 ft	3-3.5 ft	3-3.5 ft	3-3.5 ft	3-3.5 ft	3-3.5 ft	3-3.5 ft
Parameters (mg/kg)																													
Aluminum	13200	11200	12200	11500	11800	14200	12600	12100	13700	10300	11000	11200	10400	10900	11000	11800	10300	10400	12500	11000	11200	13800	12400	10500	11700	12100	14800		
Antimony	0.42	0.4 U	0.41	0.4 U	0.41 U	0.44 U	0.45 U	0.49 U	0.45 U	0.47 U	0.36 U	0.38 U	0.34 U	0.37 U	0.36 U	0.36 U	0.49 U	0.32 U	0.47	0.42 U	0.43 U	0.45 U	0.39 U	0.37 U	0.37 U	0.37 U	0.5 U		
Arsenic	3.2	3	3.1	2.5	2.8	3	2.6	2.7	2.7	2.6	1.8	2.8	2.8	3.1	2.9	3	3.2	3.2	2.9	3.4	3	3.4	3	3.3	3.2	4.4			
Barium	141	133	137	127	131	151	131	133	122	101	109	116	122	118	121	136	129	147	140	152	156	150	145	147	136	164			
Beryllium	0.65	0.6	0.625	0.67	0.67	0.8	0.69	0.67	0.75	0.62	0.6	0.68	0.7	0.65 J	0.66	0.68	0.66	0.66	0.72	0.7	0.69	0.72	0.7	0.72	0.67	0.86	0.96		
Cadmium	0.18 U	1	0.59	0.37	0.39	0.38	0.37	0.38	0.23 U	0.23 U	0.18 U	0.19 U	0.17 U	0.18 U	0.18 U	0.24 U	0.16 U	0.23 U	0.21 U	0.22 U	0.23 U	0.2 U	0.19 U	0.19 U	0.25 U				
Calcium	14200	3650	8925	3630	3940	4610	3740	4420	5590	5160	5470	5630	11600	6980	14200	17900	11900	21300	27800	27100	28500	29400	45600	35900	37500	34400	38400	28700	46700
Chromium	12.7	13.5	13.1	14	14.6	17.3	14.7	14.8	16	13.1	13.6	13.4	12.7	13	14.2	11.9	12.3	14.1	12.7	14.5	13.1	12.5	13.5	16.6					
Iron	11000	12400	11700	11800	12800	14200	12000	12600	12900	11300	9070	11500	11000	10700	11200	12200	9810	10400	12300	11000	11200	12400	11700	12000	11400	11700	15400		
Lead	10	10.8	10.4	11.1	11.5	13.3	11.2	11.5	11.2	11.5	10.3	10.6	10	9.9	10.4	10.3	9.8	9.2	9.9	10.1	10.1	9.9	9.1	9.5	10	9	9.8		
Magnesium	3790	3680	3735	3070	3520	3710	3260	3290	3070	2940	3330	3550	3790	4140	4110	4680	4960	4940	5440	5520	6460	5610	6140	6700	5720	5310	7900		
Manganese	386	536	461	486	509	560	487	499	508	480	391	402	390	386	354	370	365	339	333	380	356	359	376	343	372	370	343	432	
Nickel	12.7	13.5	13.1	12	13.4	14.3	12.5	12.8	13.6	12.6	12.7	11.4	12.9	12.7	12.6	13.2	13.7	12.2	12.4	13.4	13.1	13.6	13.4	15.8	13.2	12.2	15.5		
Potassium	1760	2450	2105	2900	2940	3400	2990	2910	2530	1790	2080	2130	1760 J	1870	1800	1680	1650	1750	1610	1690	1890	1610	1440	1480	1780				
Selenium	0.74 U	0.81 U	0.775 U	0.95	0.87	1.2	1.4	0.98 U	0.9 U	0.93 U	0.73 U	0.76 U	0.69 U	0.74 U	0.72 U	0.73 U	0.64 U	0.92 U	0.85 U	0.83 U	0.87 U	1.1	0.79 U	0.86	0.75 U	0.74 U	1 U		
Sodium	200 U	220 U	210 U	220 U	220 U	240 U	250 U	270 U	250 U	260 U	250 U	200 U	210 U	190 U	200 U	200 U	270 U	180 U	250 U	230 U	230 U	240 U	250 U	244	256	264	204	366	
Thallium	0.48 U	0.52 U	0.5 U	0.52 U	0.53 U	0.57 U	0.58 U	0.64 U	0.59 U	0.61 U	0.6 U	0.47 U	0.5 U	0.45 U	0.48 U	0.47 U	0.47 U	0.63 U	0.42 U	0.6 U	0.55 U	0.54 U	0.57 U	0.59 U	0.51 U	0.48 U	0.65 U		
Vanadium	14.1	19	16.55	16.5	18.9	19.9	17.3	18	17.8	14.3	15.4	10.1	15.1	15	14.1	15	14.7	16.7	13.9	15.7	17.8	15.7	16.3	18.4	17.5	14.5	16.4	24.5	
Fluoride	3.2	2.5	2.85	3.6	3.5	3.5	3.5	4.6	2.8	3	2.2	2.8	1.7	1.6	2.8	1.9	1.9	2.9	2.2	3.4	2.4	2.3	3.2	2.9	3	3.7	3.5		
pH (s.u.)	6.18	6.25	6.215	6.39	6.44	6.91	6.49	7.18	7.61	7.59	7.58	7.68	7.8	7.73	8.00	7.98	7.92	8.06	8.11	8.14	8.07	8.21	8.18	8.21	8.22	8.08	8.16		
%RSD (full detection limits for Sb, Cd, Se, Na, and Ti)																													
Background DU:	CENTRAL	CENTRAL	CENTRAL	CENT																									

Attachment 2a (continued)

Relative Standard Deviations Calculations for Background Soil Samples
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho

Background DU:		SOUTH PROPERTY																																	
Sample Date:	SOUTH 10/17/11	SOUTH 10/17/11	SOUTH AVERAGE	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 0-2 in	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 0-2 in	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 2-6 in	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 0.5-1 ft	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 1-1.5 ft	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 1.5-2 ft	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 2-2.5 ft	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 2.5-3 ft	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 3-3.5 ft	SOUTH T1 10/17/11	SOUTH T2 10/17/11	SOUTH 3.5-4 ft	SOUTH T1 10/17/11	SOUTH T2 10/17/11
Depth:	0-2 in (b)	0-2 in (b)	0-2 in (b)	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	0-2 in	
Parameters (mg/kg)																																			
Aluminum	13400	13700	13550	12700	14900	12600	13900	11200	13100	14500	13400	15800	15300	13800	13500	14200	14400	11600	13100	12700	11700	14400	12400	11800	12900	12800	14000	10200	11700	12000	10300	11700			
Antimony	0.37 U	0.44 U	0.41 U	0.34 U	0.4 U	0.34 U	0.38 U	0.33 U	0.44 U	0.41 U	0.36 U	0.48 U	0.39 U	0.38 U	0.46 U	0.41 U	0.37 U	0.41 U	0.37 U	0.38 U	0.34 U	0.48 U	0.5 U	0.45 U	0.5 U	0.38 U	0.38 U	0.31 U	0.31 U	0.37 U					
Arsenic	2.9	2.9	2.9	2.9	3.5	2.6	3.2	2.9	3.4	3.3	3.8	3.2	2.4	3.4	3.3	2.8	3.1	2.9	4	3.3	3.1	3.6	3.7	3.6	3	3.7	3	3.7	3	3.7					
Barium	140	145	142.5	141	144	137	153	132	137	140	143	146	150	138	134	149	146	142	159	151	151	185	162	166	199	163	211	179	231	211	179				
Beryllium	0.8	0.83	0.8	0.79	0.85 J	0.77	0.83	0.67	0.8	0.76	0.72	0.93	0.81	0.72	0.82	0.76	0.79	0.73	0.72	0.65	0.74	0.8	0.65	0.76	0.74	0.75	0.89	0.65	0.76	0.75	0.89				
Cadmium	0.61	0.6	0.6	0.7	0.58 J	0.59	0.75	1.1	0.43	0.79	1.1	0.24 U	0.9	0.8	0.23 U	0.75	0.74	0.19 U	0.69	0.7	0.17 U	0.79	0.67	0.19 U	0.83	0.78	0.28	0.68	0.89	0.89	0.89				
Calcium	3600	3690	3645	3390	3610	3560	3610	3050	3650	4410	4920	5450	6390	5580	11600	15300	9420	23800	20400	20800	29400	31300	29400	30800	27000	25300	24200	28900	22500	24200	28900	22500			
Chromium	16.3	17.4	16.9	15.4	18.9	15.4	16.8	12.9	16.3	18.3	15.2	19.4	17.3	15.2	16.3	14.6	14.4	15.1	14.6	14.4	16.9	14.6	14.1	15.1	14.9	14.9	16.6	11.1	13.4	13.4					
Iron	13100	13800	13450	12300	14200	12600	13400	11200	13200	14700	12700	15500	13900	12600	13100	13500	13700	11500	13200	11700	11400	14200	12300	12000	13300	13000	15000	10400	12700						
Lead	13	13.1	13	12.3	13.5	12.7	12.5	11.7	13.3	14.3	12.6	12.6	13	11.8	11.1	12	11.8	10.5	11.2	10.9	10.3	11.6	9.9	12.2	11.8	11.3	13	11.5	13.7						
Magnesium	3320	3370	3345	3130	3430	3300	3400	2980	3280	3340	4050	3710	3450	4320	4750	4280	5410	5610	4760	6210	6960	6010	6720	7450	6960	7190	7380	7190	7380						
Manganese	577	615	596	592	585	581	658	565	598	619	608	631	566	500	539	521	426	510	475	478	603	484	600	725	671	835	819	819	835	819					
Nickel	13.6	13.9	13.8	13.2	13.7	13.3	14.2	11.9	13.5	14.6	13.3	15.9	15.1	13.4	14.4	15.1	14.6	13.4	15.1	14.2	13.9	17	14.2	15.4	19.4	17.5	22.1	15.4	21.3						
Potassium	3130	3130	3130	3070	3320	2900	3270	2740	2900	2840	3110	2600	2540	2390	2570	1900	2030	2000	1780	2000	1850	1580	1510	1670	1550	1240	1410	1410							
Selenium	0.88	0.88 U	0.88 U	0.69 U	1.2 J	0.67 U	0.77 U	0.66 U	0.88 U	0.94	0.71 U	0.95 U	0.79 U	0.77 U	0.92 U	0.81 U	0.83 U	0.75 U	0.92 U	0.76 U	0.68 U	0.95 U	1 U	0.75 U	0.91 U	0.99 U	0.77 U	0.63 U	0.74 U						
Sodium	200 U	240 U	220 U	190 U	220 U	180 U	210 U	180 U	240 U	220 U	200 U	260 U	220 U	210 U	250 U	230 U	210 U	250 U	210 U	190 U	260 U	280 U	210 U	250 U	270 U	268	171	200 U							
Thallium	0.48 U	0.58 U	0.53 U	0.45 U	0.52 U	0.44 U	0.5 U	0.43 U	0.57 U	0.53 U	0.46 U	0.62 U	0.51 U	0.5 U	0.6 U	0.53 U	0.54 U	0.49 U	0.6 U	0.49 U	0.45 U	0.62 U	0.65 U	0.49 U	0.59 U	0.64 U	0.5 U	0.41 U	0.48 U						
Vanadium	18.3	19.5	18.9	17.1	22.7	16.3	19.3	15.4	18.2	20.8	21.4	21.2	17.9	17.8	19	19.1	16	19.1	18.5	16.5	23.4	19.7	18.5	22.4	21.8	24.4	17.1	21.6							
Fluoride	3	2.9	3	2.8	3.1	2.6	2.2	2.2	1.8	2.6	2.9	2	2.2	2	1.9	1.6	1.4	2	1.7	1.8	1.6	1.7	1.5	1.9	1.7	1.6	2.1	1.7	1.9						
pH (s.u.)	6.18	6.14	6.16	6.04	6.07	6.19	5.94	5.88	6.4	6.76	7.11	7.42	7.38</																						

Attachment 2b

**Background Soil Regression Analysis
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho (a)**

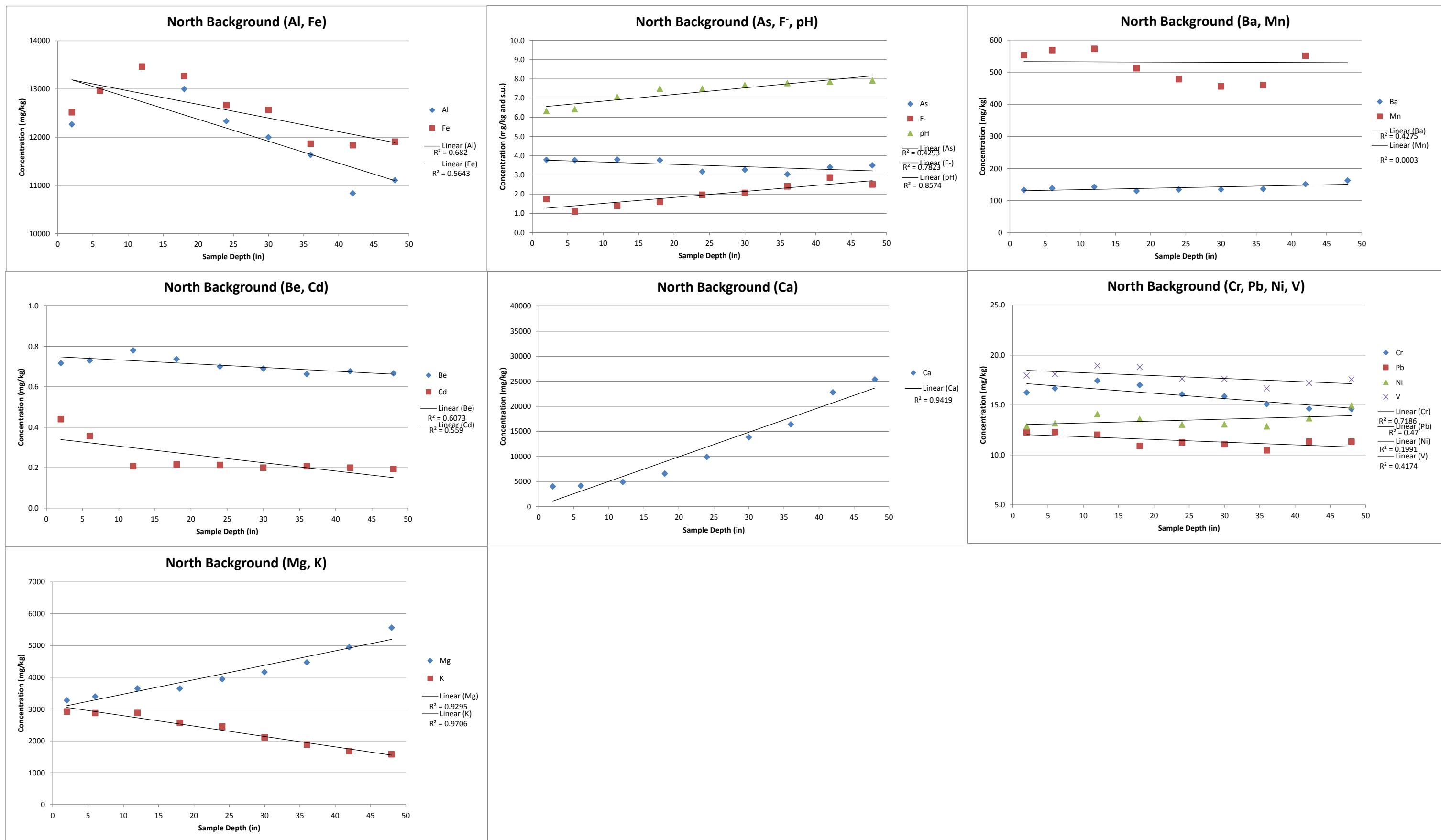
Background DU:		NORTH PROPERTY																													
Sample:	NORTH 10/20/11	NORTH 10/20/11	NORTH T1 0-2 in	NORTH T2 0-2 in	NORTH 10/20/11	NORTH T1 10/20/11	NORTH T2 2-6 in	NORTH 10/20/11	NORTH T1 10/20/11	NORTH T2 2-6 in	NORTH 10/20/11	NORTH T1 0.5-1 ft	NORTH T2 0.5-1 ft	NORTH 10/20/11	NORTH T1 1-1.5 ft	NORTH T2 1-1.5 ft	NORTH 10/20/11	NORTH T1 1.5-2 ft	NORTH T2 1.5-2 ft	NORTH 10/20/11	NORTH T1 2-2.5 ft	NORTH T2 2-2.5 ft	NORTH 10/20/11	NORTH T1 2.5-3 ft	NORTH T2 2.5-3 ft	NORTH 10/20/11	NORTH T1 3-3.5 ft	NORTH T2 3-3.5 ft	NORTH 10/20/11	NORTH T1 3.5-4 ft	NORTH T2 3.5-4 ft
Sample Date:	0-2 in (b)	0-2 in (b)	0-2 in	0-2 in	10/20/11	10/20/11	2-6 in	10/20/11	10/20/11	2-6 in	10/20/11	0.5-1 ft	0.5-1 ft	10/20/11	1-1.5 ft	1-1.5 ft	10/20/11	1.5-2 ft	1.5-2 ft	10/20/11	2-2.5 ft	2-2.5 ft	10/20/11	2.5-3 ft	2.5-3 ft	10/20/11	3-3.5 ft	3-3.5 ft	10/20/11	3.5-4 ft	3.5-4 ft

Parameters (mg/kg)

Aluminum	11800	12000	12600	12300	13500	13800	11600	13700	14100	12600	12100	12600	14300	12000	12300	12700	12800	12400	10800	12000	11800	11100	10800	10700	11000	11000	11321	11000			
Antimony	0.35 U	0.37 U	0.37 U	0.42 U	0.35 U	0.33 U	0.4 U	0.46 U	0.41 U	0.31 U	0.37 U	0.5 U	0.43 U	0.36 U	0.31 U	0.48 U	0.46 U	0.38 U	0.36 U	0.49 U	0.41 U	0.35 U	0.38 U	0.43 U	0.38 U	0.37 U	0.39 U	0.42 U			
Arsenic	3.4	3.3	4	4	4	3.9	3.4	3.9	4	3.5	3.7	3.6	4	2.6	3.7	3.2	3.6	3.3	2.9	3.1	3.1	3.5	3.6	3.6	4	2.9	3.6	4	2.9		
Barium	126	125	139	135	136	149	130	145	148	135	129	123	138	125	141	137	144	136	124	139	135	154	146	153	166	148	175				
Beryllium	0.7	0.68	0.75	0.71	0.73	0.79	0.67	0.79	0.81	0.74	0.71	0.7	0.8	0.66 J	0.72	0.72	0.71	0.71	0.65	0.65	0.65	0.67	0.68	0.67	0.66	0.67	0.67	0.67	0.67		
Cadmium	0.42	0.36	0.48	0.45	0.29	0.42	0.36	0.23 U	0.21 U	0.18	0.19 U	0.25 U	0.21 U	0.18 U	0.22	0.24 U	0.23 U	0.19 U	0.18 U	0.25 U	0.2 U	0.17 U	0.19 U	0.22 U	0.19 U	0.18 U	0.19 U	0.21 U			
Calcium	4180	3890	4140	3840	4060	4560	3810	5500	5100	4080	9560	5330	4840	9420	14400	5830	19600	12500	9330	21400	15700	12100	28600	21400	18400	30600	24829	20700			
Chromium	15.2	15.3	16.9	16.6	17	18.1	14.9	17.5	18.7	16.1	16	16.6	18.4	14.9	16.6	16.7	16.6	16.4	14.6	15.1	15.2	15	14.3	14.7	14.9	14.2	15	14.6			
Iron	11900	12000	12900	12700	13500	13600	11800	14000	14100	12300	12600	12900	14300	11600	13000	13400	13200	12900	11600	11800	12000	11400	12100	12000	11700	12321	11700				
Lead	11.7	11.4	12.8	12.4	12	13.6	11.3	11.8	12.5	11.8	10.7	10.6	11.4	10.2	12.2	11.4	10.9	11.7	10.6	9.9	10.3	11.2	11.3	10.8	11.9	11.5	11	11.5			
Magnesium	3250	3180	3390	3230	3460	3630	3100	3860	3730	3360	3710	3420	3810	3770	4280	3780	4630	4220	3640	4930	4640	3830	5560	5270	4010	6790	5278	4610			
Manganese	513	503	591	560	536	631	538	571	599	548	504	486	546	431	500	503	458	482	426	416	464	499	488	510	655	521	715				
Nickel	12.5	12.1	13.4	12.9	13.1	14.2	12.2	14.5	14.6	13.2	13	14.6	12.1	13.4	13.6	13.1	13.7	12.4	12.4	13	13.2	13.3	13.6	14.1	14.4	15.9	14.5	15.9			
Potassium	2870	2850	2990	2930	2930	3090	2610	2930	2900	2730	2380	2430	2910	2510	2230	2610	2250	2150	1950	1980	1720	1960	1620	1560	1860	1650	1518	1570			
Selenium	0.7 U	0.74 U	0.85	0.85 U	0.69 U	0.67 U	0.81 U	0.93 U	0.83 U	0.63 U	0.75 U	1 U	0.85 U	0.73 U	0.63 U	0.96 U	0.93 U	0.76 U	0.71 U	0.98 U	0.81 U	0.7 U	0.75 U	0.86 U	0.76 U	0.74 U	1 U	0.84 U			
Sodium	190 U	200 U	210 U	230 U	190 U	180 U	220 U	250 U	230 U	170 U	210 U	280 U	240 U	200 U	170 U	260 U	250 U	210 U	200 U	270 U	220 U	190 U	210 U	240 U	210 U	200 U	215 U	230 U			
Thallium	0.46 U	0.48 U	0.49 U	0.55 U	0.45 U	0.43 U	0.52 U	0.6 U	0.54 U	0.41 U	0.49 U	0.65 U	0.56 U	0.47 U	0.41 U	0.63 U	0.6 U	0.49 U	0.46 U	0.64 U	0.53 U	0.45 U	0.49 U	0.56 U	0.5 U	0.48 U	0.5 U	0.55 U			
Vanadium	16.4	17	18.6	18.6	19.1	19.4	15.8	19.1	19.1	20.4	17.3	18.2	17.6	20.6	15.4	19.3	18.2	19.4	18.1	15.3	17.1	16.4	16.5	15.9	17.2	18.5	17.5	18.1	17.1		
Fluoride</																															

Attachment 2b (continued)

Background Soil Regression Analysis
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho



Attachment 2b (continued)

**Background Soil Regression Analysis
Nu-West Industries, Inc.
Landa Phosphate Operations Facility
Soda Springs, Idaho**

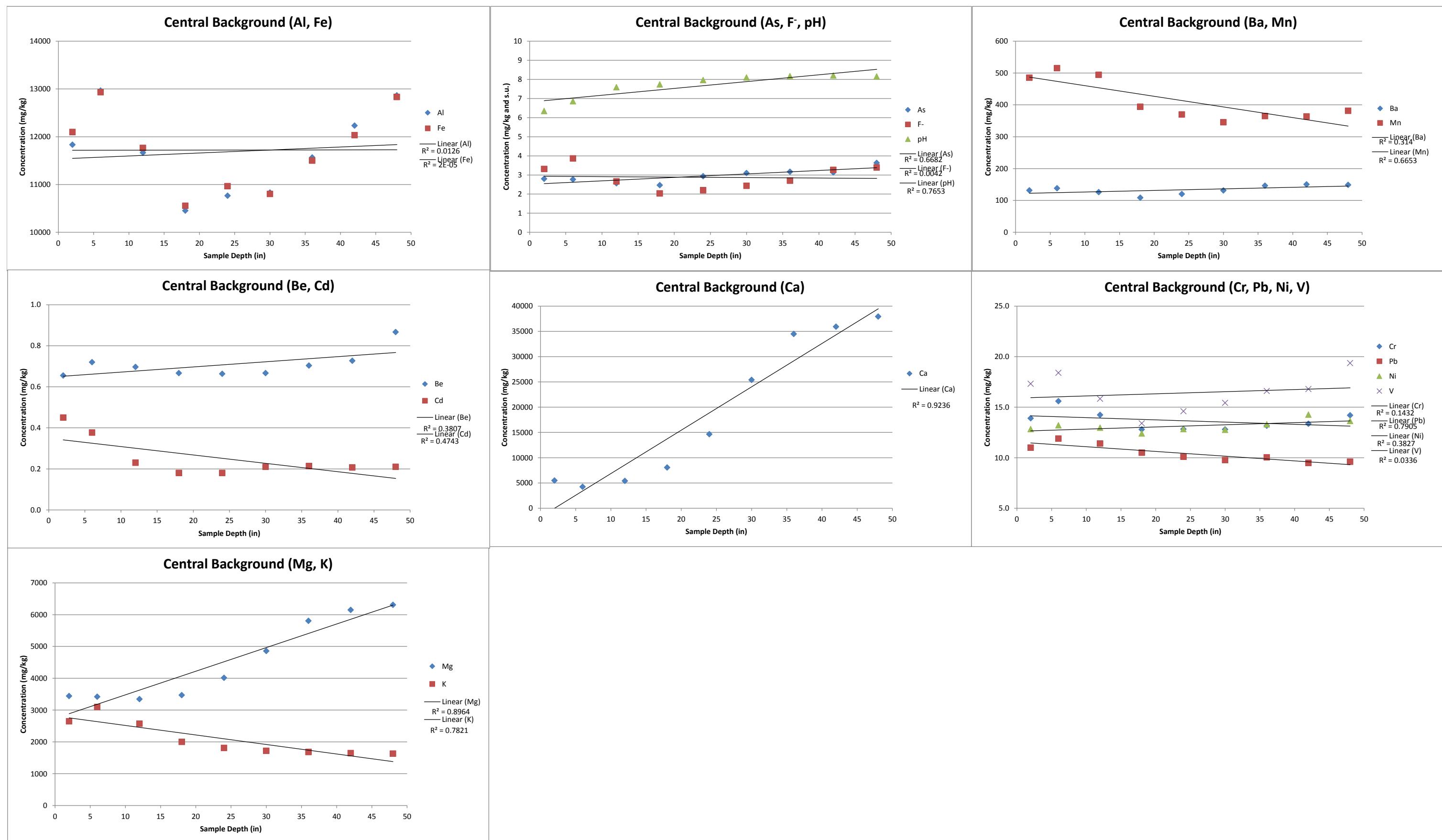
Average Concentrations

Background DU:	CENTRAL PROPERTY								
Maximum Depth (in):	2	6	12	18	24	30	36	42	48

Parameters (mg/kg)									
	11833	12967	11667	10453	10767	10833	11567	12233	12867
Aluminum	11833	12967	11667	10453	10767	10833	11567	12233	12867
Antimony	- (d)	-	-	-	-	-	-	-	-
Arsenic	2.8	2.8	2.6	2.5	2.9	3.1	3.2	3.1	3.6
Barium	132	138	126	109	120	131	146	150	149
Beryllium	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.9
Cadmium	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Calcium	5498	4257	5407	8070	14667	25400	34500	35933	37933
Chromium	13.9	15.6	14.2	12.8	12.8	12.8	13.2	13.4	14.2
Iron	12100	12933	11767	10557	10967	10803	11500	12033	12833
Lead	11.0	11.9	11.4	10.5	10.1	9.8	10.0	9.5	9.6
Magnesium	3442	3420	3347	3470	4013	4860	5807	6150	6310
Manganese	485	515	495	394	370	346	365	364	382
Nickel	12.8	13.2	13.0	12.4	12.8	12.8	13.3	14.3	13.6
Potassium	2648	3100	2573	2000	1810	1720	1683	1647	1633
Selenium	- (d)	-	-	-	-	-	-	-	-
Sodium	- (d)	-	-	-	-	-	-	-	-
Thallium (all ND)	- (d)	-	-	-	-	-	-	-	-
Vanadium	17.3	18.4	15.8	13.4	14.6	15.4	16.6	16.8	19.4
Fluoride	3.3	3.9	2.7	2.0	2.2	2.4	2.7	3.3	3.4
pH (s.u.)	6.35	6.86	7.59	7.74	7.97	8.10	8.17	8.20	8.15

Attachment 2b (continued)

Background Soil Regression Analysis
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho



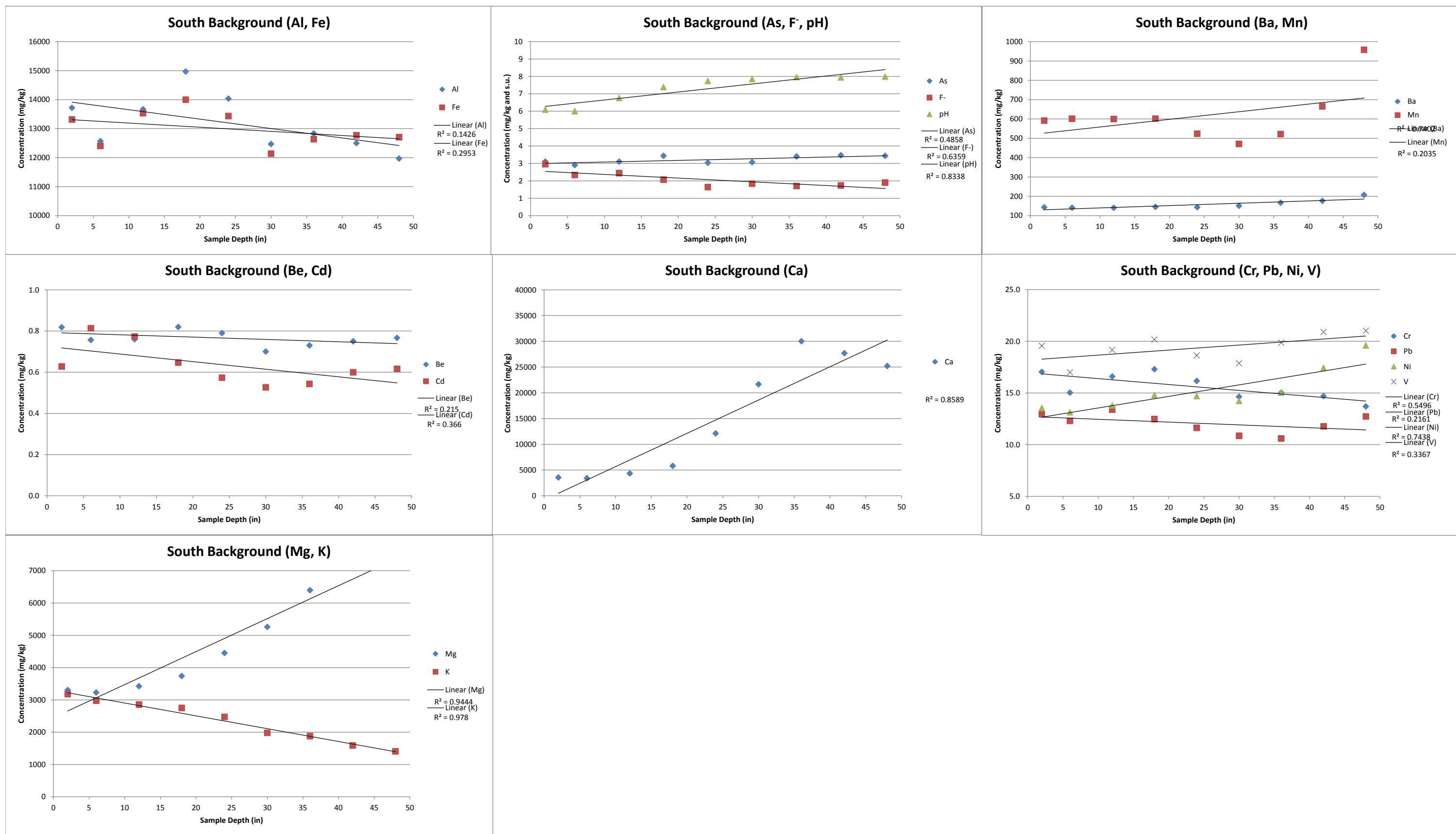
Attachment 2b (continued)

**Background Soil Regression Analysis
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Background DU:		SOUTH PROPERTY																													
Sample:	SOUTH	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2	SOUTH	SOUTH T1	SOUTH T2
Sample Date:	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11	10/17/11
Depth:	0-2 in (b)	0-2 in (b)	0-2 in	0-2 in	2-6 in	2-6 in	2-6 in	0.5-1 ft	0.5-1 ft	0.5-1 ft	1-1.5 ft	1-1.5 ft	1-1.5 ft	1.5-2 ft	1.5-2 ft	1.5-2 ft	2-2.5 ft	2-2.5 ft	2-2.5 ft	2.5-3 ft	2.5-3 ft	2.5-3 ft	3-3.5 ft	3-3.5 ft	3-3.5 ft	3.5-4 ft					
Aluminum	13400	13700	12700	14900	12600	13900	11200	13100	14500	13400	15800	15300	13800	13500	14200	14400	11600	13100	12700	11700	14400	12400	11800	12900	12800	14000	10200	11700	10200	11700	
Antimony	0.37 U	0.44 U	0.34 U	0.4 U	0.34 U	0.38 U	0.33 U	0.44 U	0.41 U	0.36 U	0.48 U	0.39 U	0.38 U	0.46 U	0.41 U	0.37 U	0.46 U	0.38 U	0.34 U	0.48 U	0.5 U	0.38 U	0.45 U	0.5 U	0.38 U	0.31 U	0.37 U	0.31 U	0.37 U		
Arsenic	2.9	2.9	2.9	3.5	2.6	3.2	2.9	2.6	3.4	3.3	3.3	3.8	3.2	2.4	3.4	3.3	2.8	3.1	3.3	2.9	4	3.3	3.6	3.6	3.7	3.6	3.7	3.6	3.7	3.6	3.7
Barium	140	145	141	144	137	153	132	137	140	143	146	150	138	134	149	146	142	159	151	151	185	162	166	199	163	211	179	231	211	179	231
Beryllium	0.8	0.83	0.79	0.85 J	0.77	0.83	0.67	0.8	0.76	0.72	0.93	0.81	0.72	0.82	0.76	0.79	0.73	0.72	0.65	0.74	0.8	0.65	0.76	0.74	0.75	0.89	0.65	0.76	0.75	0.89	
Cadmium	0.61	0.6	0.7	0.58 J	0.59	0.75	1.1	0.43	0.79	1.1	0.24 U	0.9	0.8	0.23 U	0.75	0.74	0.19 U	0.69	0.7	0.17 U	0.79	0.67	0.19 U	0.83	0.78	0.28	0.68	0.89	0.28	0.68	0.89
Calcium	3600	3690	3390	3610	3560	3610	3050	3650	4410	4920	5450	6390	5580	11600	15300	9420	23800	20400	20800	29400	31300	29400	30800	27000	25300	24200	28900	22500	24200	28900	22500
Chromium	16.3	17.4	15.4	18.9	15.4	16.8	12.9	16.3	18.3	15.2	19.4	17.3	15.2	16.3	15.8	16.4	14	15.1	14.8	13.6	16.9	14.6	14.1	15.1	14.9	16.6	11.1	13.4	11.1	13.4	
Iron	13100	13800	12300	14200	12600	13400	11200	13200	14700	12700	15500	13900	12600	13100	13500	13700	11500	13200	11700	11400	14200	12300	12000	13300	13000	15000	10400	12700	10400	12700	
Lead	13	13.1	12.3	13.5	12.7	12.5	11.7	13.3	14.3	12.6	12.6	13	11.8	11.1	12	11.8	10.5	11.2	10.9	10.3	11.6	9.9	12.2	11.8	11.3	13	11.5	13.7	11.5	13.7	
Magnesium	3320	3370	3130	3430	3300	3400	2980	3280	3640	3340	4050	3710	3450	4320	4750	4280	5410	5610	4760	6210	6960	6010	6720	7450	6960	7950	7190	7380	7190	7380	
Manganese	577	615	592	585	581	658	565	598	619	582	608	631	566	500	539	531	426	510	475	484	600	725	671	835	819	1220	819	1220			
Nickel	13.6	13.9	13.2	13.7	13.3	14.2	11.9	13.5	14.6	13.3	15.9	15.1	13.4	14.4	15.1	14.6	13.4	15.1	14.2	13.9	17	14.2	15.4	19.4	17.5	22.1	15.4	21.3	22.1	15.4	21.3
Potassium	3130	3130	3070	3320	2900	3270	2740	2900	2840	2820	3110	2600	2540	2390	2570	1900	2030	2000	1780	2000	1850	1510	1670	1550	1240	1410	1240	1410			
Selenium	0.88	0.88 U	0.69 U	1.2 J	0.67 U	0.77 U	0.66 U	0.88 U	0.94	0.71 U	0.95 U	0.79 U	0.77 U	0.92 U	0.81 U	0.83 U	0.75 U	0.92 U	0.76 U	0.68 U	0.95 U	1 U	0.75 U	0.91 U	0.99 U	0.77 U	0.63 U	0.74 U	0.63 U	0.74 U	
Sodium	200 U	240 U	190 U	220 U	180 U	210 U	180 U	240 U	220 U	200 U	260 U	220 U	210 U	250 U	220 U	230 U	210 U	250 U	210 U	260 U	280 U	210 U	250 U	270 U	268	171	200 U	171	200 U		
Thallium	0.48 U	0.58 U	0.45 U	0.52 U	0.44 U	0.5 U	0.43 U	0.57 U	0.53 U	0.46 U	0.62 U	0.51 U	0.5 U	0.6 U	0.53 U	0.54 U	0.49 U	0.6 U	0.49 U	0.45 U	0.62 U	0.65 U	0.49 U	0.59 U	0.64 U	0.5 U	0.41 U	0.48 U	0.41 U	0.48 U	
Vanadium	18.3	19.5	17.1	22.7	16.3	19.3	15.4	18.2	20.8	18.5	21.4	17.9	17.8	19	19.1	16	19.1	18.5	16.5	23.4	19.7	18.5	22.4	21.8	24.4	17.1	21.6	17.1	21.6		
Fluoride	3	2.9	2.8	3.1	2.6	2.2	2.2	2.6	2.8	2.9	2	2.2	2	1.9	1.6	1.4	2	1.7	1.8	1.9	1.7	1.5	1.9	1.7	1.6	2.1	1.7	1.9	1.7	1.9	
pH (s.u.)	6.18	6.14	6.04	6.07	6.19	5.94	5.88	6.4	6.76	7.11	7.42	7.38	7.37	7.63	7.7	7.88	7.68	7.8													

Attachment 2b (continued)

Background Soil Regression Analysis
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho



Attachment 2c

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

Statistical Evaluation of Significant Differences in Background Properties
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho

Beryllium		Sample Intervals:		Concentrations (mg/kg)																												
				0-2"			2-6"			6-12"			12-18"			18-24"			24-30"			30-36"			36-42"			42-48"			ALL DEPTHS	
		South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	
		0.82	0.63	0.69	0.77	0.8	0.73	0.8	0.75	0.79	0.93	0.62	0.71	0.82	0.65	0.66	0.73	0.69	0.71	0.74	0.72	0.65	0.76	0.79	0.67	0.89	0.86	0.67	0.82	0.63	0.69	
		0.79	0.67	0.75	0.83	0.69	0.79	0.76	0.64	0.81	0.81	0.68	0.70	0.76	0.66	0.72	0.72	0.66	0.71	0.8	0.7	0.65	0.74	0.72	0.68	0.65	0.78	0.70	0.79	0.67	0.75	
		0.85	0.67	0.71	0.67	0.67	0.67	0.72	0.7	0.74	0.72	0.7	0.80	0.79	0.68	0.72	0.65	0.65	0.65	0.65	0.69	0.69	0.69	0.75	0.67	0.67	0.76	0.96	0.67	0.77	0.8	0.73
Statistics		0.82	0.66	0.72	0.76	0.72	0.73	0.76	0.70	0.78	0.82	0.67	0.74	0.79	0.66	0.70	0.70	0.67	0.69	0.73	0.70	0.66	0.75	0.73	0.68	0.77	0.87	0.68	0.77	0.71	0.71	
Sample Mean		0.030	0.023	0.031	0.081	0.070	0.060	0.040	0.055	0.036	0.105	0.042	0.055	0.030	0.015	0.035	0.044	0.021	0.035	0.075	0.015	0.023	0.010	0.060	0.006	0.120	0.090	0.017	0.069	0.075	0.047	
Sample Std Dev					3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	27	27	27	
Test - Are Means Different?		S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N				
Pooled s ²		0.00072	0.00073	0.00092	0.00572	0.00425	0.00507	0.00232	0.00217	0.00145	0.00642	0.00238	0.00707	0.00057	0.00072	0.00105	0.00117	0.00082	0.00155	0.00297	0.00038	0.00312	0.00187	0.00183	0.00007	0.01128	0.00422	0.00737	0.00521	0.00392	0.00346	
t		7.47	-2.71	4.18	0.59	-0.19	0.46	1.61	-2.19	-0.64	2.34	-1.76	1.21	6.52	-1.68	3.40	1.20	-1.00	0.31	0.60	2.50	1.46	0.66	1.43	11.00	-1.15	3.52	1.24	2.98	-0.04	3.61	
Critical t for 2-tailed test (cum prob = 0.975) (n1+n2-2 degrees freedom)		2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.01	2.01	2.01			
Conclusion:		DIFFERENT	SAME	DIFFERENT	SAME	DIFFERENT	SAME	DIFFERENT	SAME	DIFFERENT	SAME	SAME																				

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Iron	Sample Intervals:	Concentrations (mg/kg)																														
		0-2"			2-6"			6-12"			12-18"			18-24"			24-30"			30-36"			36-42"			42-46"			ALL DEPTHS			
South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North			
13450	11700	11950	12600	14200	13500	13200	12900	14000	15500	9070	12600	13100	11000	11600	11500	12200	13200	11400	12300	11800	12000	12400	11400	15000	11400	11700	13450	11700	11950			
12300	11800	12900	13400	12000	13600	14700	11300	14100	13900	11500	12900	13500	10700	13000	13200	9810	12900	14200	11000	11800	12300	13300	11700	12100	10400	11700	12321	12300	11800	12900		
14200	12800	12700	11200	12600	11800	12700	11100	12300	12600	11100	14300	13700	11200	13400	11700	10400	11600	12300	11200	12000	13000	12000	15400	11700	12700	14200	12800	12700	12600	14200	13500	
13000	11500	12000	12500	11000	13500	13500	12000	14000	14000	12500	13000	14500	13000	11500	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	
12000	11000	11500	12000	10500	13000	13000	11500	13500	13500	12000	12500	14000	12500	11000	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	
11000	9500	10500	11500	9000	12000	12000	10500	13000	13000	11500	12000	14000	12000	10000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000	
10000	8500	9500	10500	8000	11000	11000	9500	12000	12000	10500	11000	13000	11000	9000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	
9000	7500	8500	9500	7000	9000	9000	8500	10000	10000	9000	9500	11000	9500	8000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	
8000	6500	7500	8500	6000	8000	8000	7500	9000	9000	8000	8500	10000	8500	7000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	
7000	5500	6500	7500	5000	7000	7000	6500	8000	8000	7000	7500	9000	7500	6000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000		
6000	4500	5500	6500	4000	6000	6000	5500	7000	7000	6000	6500	8000	6500	5000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000		
5000	3500	4500	5500	3000	5000	5000	4500	6000	6000	5000	5500	7000	5500	4000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000		
4000	2500	3500	4500	2000	4000	4000	3500	5000	5000	4000	4500	6000	4500	3000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000		
3000	1500	2500	3500	1000	3000	3000	2500	4000	4000	3000	3500	5000	3500	2000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000		
2000	1000	2000	3000	500	2000	2000	1500	3000	3000	2000	2500	4000	2500	1000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000		
1000	500	1000	2000	0	1000	1000	500	2000	2000	1000	1500	3000	1500	500	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000		
500	0	500	1000	0	500	500	0	1000	1000	500	1000	2000	1000	0	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
0	0	0	500	0	0	0	0	1000	1000	0	1000	2000	1000	0	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
Statistics																																
Sample Mean	13317	12100	12517	12400	12933	12967	13533	11767	13467	14000	10557	13267	13433	10967	12667	12133	10803	12567	12633	11500	11867	12767	12033	11833	12700	12833	11907	12991	11721	12562		
Sample Std Dev	957.0	608.3	500.8	1113.6	1137.2	1011.6	1040.8	986.6	1011.6	1452.6	1302.9	907.4	305.5	251.7	945.2	929.2	1245.0	850.5	1429.5	700.0	115.5	680.7	351.2	378.6	2300.0	2227.9	358.5	1194.4	1245.7	851.5		
n	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	27	27	27
Test - Are Means Different?	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N		
Pooled s2	642917	310417	583333	126667	1158333	1131667	1028333	998333	1053333	1903817	1260483	1466667	78333	478333	493333	1206683	1136683	793333	1266667	251667	1028333	293333	133333	303333	5126667	2545940	2709274	148168	113841	107594		
t	1.86	-0.92	1.28	-0.58	-0.04	-0.65	2.13	-2.08	0.08	3.06	-2.96	0.74	10.79	-3.01	1.34	1.48	-2.03	-0.60	1.23	-0.90	0.93	1.66	0.67	2.08	-0.07	0.71	0.59	3.82	-2.89	1.52		
Critical t for 2-tailed test (cum prob = 0.975) (n1+n2-2 degrees freedom)	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78			
Conclusion:	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	DIFFERENT	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	DIFFERENT	DIFFERENT	SAME	

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

Statistical Evaluation of Significant Differences in Background Properties
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho

Magnesium	Sample Intervals:	Concentrations (mg/kg)																											
		0-2"			2-6"			6-12"			12-18"			18-24"			24-30"			30-36"			36-42"			42-48"			
		South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	
		3345	3735	3215	3300	3710	3460	3280	3640	3860	4050	2940	3710	4320	3790	3770	5410	4680	4630	6210	5440	4930	6720	5610	5560	7950	5720	6790	
		3130	3070	3390	3400	3260	3630	3640	3070	3730	3710	3920	3420	4750	4140	4280	5610	4960	4220	6960	5520	4640	7450	6140	5270	7190	5310	5278	
		3430	3520	3230	2980	3290	3100	3340	3330	3360	3450	3550	3810	4280	4110	3780	4760	4940	3640	6010	6460	3830	6960	6700	4010	7380	7900	4610	
			SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	SAME	

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Selenium	Sample Intervals:		Concentrations (mg/kg)																											
			0-2"			2-6"			6-12"			12-18"			18-24"			24-30"			30-36"			36-42"			42-48"			
			South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	
			0.66	0.39	0.36	0.34	1.20	0.35	0.44	0.45	0.47	0.48	0.37	0.38	0.46	0.37	0.37	0.38	0.49	0.49	0.34	0.43	0.49	0.38	0.55	0.38	0.39	0.38	0.37	
			0.35	0.95	0.85	0.39	1.40	0.34	0.94	0.95	0.42	0.40	0.38	0.50	0.41	0.36	0.32	0.46	0.32	0.38	0.48	0.42	0.41	0.46	0.40	0.43	0.32	0.37	0.38	
			1.20	0.87	0.43	0.33	0.49	0.41	0.36	0.47	0.32	0.39	0.35	0.43	0.42	0.37	0.48	0.38	0.46	0.36	0.50	0.44	0.35	0.50	0.43	0.38	0.42	1.20	0.87	0.43
				</td																										

Attachment 2c (continued)

Statistical Evaluation of Significant Differences in Background Properties
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho

Sodium	Sample Intervals:	Concentrations (mg/kg)																										
		0-2"			2-6"			6-12"			12-18"			18-24"			24-30"			30-36"			36-42"			42-48"		
		South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North	South	Central	North
		110	105	97.5	90	120	95	120	125	125	130	100	105	125	100	100	105	135	125	95	115	135	105	125	100	110	105	97.5
		95	110	105	105	125	90	110	130	115	110	105	140	110	100	85	125	90	105	130	115	110	125	108	171	204	105	
		110	110	115	90	135	110	100	125	85	105	95	120	115	100	130	105	125	100	140	120	95	110	110	115	110	115	
Statistics		105	108	106	95	127	98	110	127	108	115	100	122	117	100	105	112	117	110	122	117	113	122	208	110	180	278	108
Sample Mean		105	108	106	95	127	98	110	127	108	115	100	122	117	100	105	112	117	110	122	117	113	122	208	110	180	278	108
Sample Std Dev		8.7	2.9	8.8	8.7	7.6	10.4	10.0	2.9	20.8	13.2	5.0	17.6	7.6	0.0	22.9	11.5	23.6	13.2	23.6	2.9	20.2	15.3	72.4	8.7	84.3	81.9	7.5
n		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Test - Are Means Different?		S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N	S vs C	C vs N	S vs N
Pooled s ²		41.67	42.71	76.04	66.67	83.33	91.67	54.17	220.83	266.67	100.00	166.67	241.67	29.17	262.50	291.67	345.83	366.67	154.17	283.33	208.33	483.33	2738.83	2659.67	154.17	6910.17	3382.13	3584.29
t		-0.63	0.47	-0.12	-4.75	3.80	-0.43	-2.77	1.51	0.13	1.84	-2.06	-0.53	3.78	-0.38	0.84	-0.33	0.43	0.16	0.36	0.28	0.46	-2.03	2.34	1.15	-1.45	3.59	1.48
Critical t for 2-tailed test (cum prob = 0.975) (n1+n2-2 degrees freedom)		2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	
Conclusion:		SAME	SAME	SAME	DIFFERENT	DIFFERENT	SAME	DIFFERENT	SAME																			

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 2c (continued)

**Statistical Evaluation of Significant Differences in Background Properties
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

Attachment 3

Attachment 3

**95% UCL Calculations
Nu-West Industries, Inc.
Soda Phosphate Operations Facility
Soda Springs, Idaho**

ISM Calculator for 1-sided Upper Confidence Limit (UCL) for the Mean 0-2 in-bgs

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 1	13550	0.21	2.9	143	0.82	0.61	3645	16.85	13450	13.1	3345	596	13.75	3130	0.66	110	0.27	18.9	3.0	6.2	6.0
Rep 2	12700	0.17	2.9	141	0.79	0.70	3390	15.40	12300	12.3	3130	592	13.2	3070	0.35	95	0.23	17.1	2.8	6.0	6.0
Rep 3	14900	0.20	3.5	144	0.85	0.58	3610	18.90	14200	13.5	3430	585	13.7	3320	1.20	110	0.26	22.7	3.1	6.1	6.0
Rep 28	12200	0.21	3.1	137	0.63	0.19	8925	13.03	11700	10.4	3735	461	13.1	2105	0.39	105	0.25	16.6	2.9	6.2	6.0
Rep 29	11500	0.20	2.5	127	0.67	0.37	3630	14.00	11800	11.1	3070	486	12	2900	0.95	110	0.26	16.5	3.6	6.4	6.0
Rep 30	11800	0.21	2.8	131	0.67	0.39	3940	14.60	12800	11.5	3520	509	13.4	2940	0.87	110	0.27	18.9	3.5	6.4	6.0
Rep 55	11900	0.18	3.4	126	0.69	0.39	4035	15.25	11950	11.6	3215	508	12.3	2860	0.36	97.5	0.24	16.7	2.0	6.6	6.0
Rep 56	12600	0.19	4.0	139	0.75	0.48	4140	16.90	12900	12.8	3390	591	13.4	2990	0.85	105	0.25	18.6	1.4	6.19	6.1
Rep 57	12300	0.21	4.0	135	0.71	0.45	3840	16.60	12700	12.4	3230	560	12.9	2930	0.43	115	0.28	18.6	1.9	6.21	6.2
arithmetic mean	12605.556	0.196	3.228	136	0.731	0.462	4350.556	15.725	12644.444	12.067	3340.556	543.111	13.083	2916.111	0.672	106.389	0.253	18.283	2.672	6.254	6.254
standard deviation	1048	0.014	0.527	6.660	0.076	0.152	1731.573	1.780	819	1.002	207	52	1	335	0	7	0	2	1	0	
CV = SD / mean	0.083	0.073	0.163	0.049	0.103	0.329	0.398	0.113	0.065	0.083	0.062	0.096	0.046	0.115	0.463	0.061	0.063	0.107	0.283	0.028	0.028
count (r)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
alpha (95% = 0.05)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.95
t(alpha, df=r-1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	-1.86
Student's t UCL	13255.37	0.20	3.55	140.02	0.78	0.56	5423.87	16.83	13152.15	12.69	3496.05	575.56	13.45	3124.03	0.86	110.42	0.26	19.49	3.14	6.36	6.1
Chebychev UCL	14128.77	0.22	3.99	145.57	0.84	0.68	6866.47	18.31	13834.55	13.52	3641.75	619.17	13.95	3403.47	1.12	115.85	0.28	21.12	3.77	6.51	6.2

2-6 in-bgs

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 4	12600	0.17	2.6	137	0.77	0.59	3560	15.40	12600	12.7	3300	581	13.3	2900	0.34	90	0.22	16.3	2.6	6.2	6.
Rep 5	13900	0.19	3.2	153	0.83	0.75	3610	16.80	13400	12.5	3400	658	14.2	3270	0.39	105	0.25	19.3	2.2	5.9	5.
Rep 6	11200	0.17	2.9	132	0.67	1.10	3050	12.90	11200	11.7	2980	565	11.9	2740	0.33	90	0.22	15.4	2.2	5.9	5.
Rep 31	14200	0.22	3.0	151	0.8	0.38	4610	17.30	14200	13.3	3710	560	14.3	3400	1.20	120	0.29	19.9	3.5	6.9	6.
Rep 32	12600	0.23	2.6	131	0.69	0.37	3740	14.70	12000	11.2	3260	487	12.5	2990	1.40	125	0.29	17.3	3.5	6.5	6.
Rep 33	12100	0.25	2.7	133	0.67	0.38	4420	14.80	12600	11.2	3290	499	12.8	2910	0.49	135	0.32	18.0	4.6	7.2	7.
Rep 58	13500	0.18	4.0	136	0.73	0.29	4060	17.00	13500	12	3460	536	13.1	2930	0.35	95	0.23	19.1	0.88	6.5	6.
Rep 59	13800	0.17	3.9	149	0.79	0.42	4560	18.10	13600	13.6	3630	631	14.2	3090	0.34	90	0.22	19.4	1.5	6.59	6.5
Rep 60	11600	0.20	3.4	130	0.67	0.36	3810	14.90	11800	11.3	3100	538	12.2	2610	0.41	110	0.26	15.8	0.91	6.16	6.1
arithmetic mean	12833.333	0.195	3.144	139	0.736	0.516	3935.556	15.767	12766.667	12.167	3347.778	561.667	13.167	2982.222	0.581	106.667	0.253	17.833	2.432	6.427	6.427
standard deviation	1074	0.029	0.529	9.239	0.063	0.261	522.042	1.642	982	0.908	233	56	1	245	0	17	0	2	1	0	
CV = SD / mean	0.084	0.151	0.168	0.066	0.086	0.506	0.133	0.104	0.077	0.075	0.070	0.100	0.069	0.082	0.713	0.159	0.151	0.095	0.518	0.067	0.06
count (r)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
alpha (95% = 0.05)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.9
t(alpha, df=r-1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	-1.86
Student's t UCL	13498.77	0.21	3.47	144.84	0.77	0.68	4259.14	16.78	13375.57	12.73	3492.51	596.45	13.73	3134.20	0.84	117.18	0.28	18.89	3.21	6.70	6.1
Chebychev UCL	14393.16	0.24	3.91	152.54	0.83	0.89	4694.06	18.15	14193.98	13.49	3687.04	643.21	14.48	3338.48	1.18	131.30	0.31	20.31	4.26	7.06	6.4

0.5-1 ft-bgs

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 7	13100	0.22	2.6	137	0.8	0.43	3650	16.30	13200	13.3	3280	598	13.5	2900	0.44	120	0.29	18.2	1.8	6.4	6.0
Rep 8	14500	0.21	3.4	140	0.76	0.79	4410	18.30	14700	14.3	3640	619	14.6	2840	0.94	110	0.27	20.8	2.6	6.8	6.0
Rep 9	13400	0.18	3.3	143	0.72	1.10	4920	15.20	12700	12.6	3340	582	13.3	2820	0.36	100	0.23	18.5	2.9	7.1	7.0
Rep 34	13700	0.23	2.7	133	0.75	0.12	5590	16.00	12900	11.5	3640	508	13.6	2940	0.45	125	0.30	17.8	2.8	7.6	7.0
Rep 35	10300	0.24	2.6	122	0.64	0.12	5160	13.10	11300	11.2	3070	496	12.6	2250	0.95	130	0.31	14.3	3.0	7.6	7.0
Rep 36	11000	0.23	2.4	123	0.7	0.12	5470	13.60	11100	11.5	3330	480	12.7	2530	0.47	125	0.30	15.4	2.2	7.6	7.0
Rep 61	13700	0.23	3.9	145	0.79	0.12	5500	17.50	14000	11.8	3860	571	14.5	2930	0.47	125	0.30	19.1	1.3	7.15	7.10
Rep 62	14100	0.21	4.0	148	0.81	0.11	5100	18.70	14100	12.5	3730	599	14.6	2990	0.42	115	0.27	20.4	1.5	7.19	7.10
Rep 63	12600	0.16	3.5	135	0.74	0.18	4080	16.10	12300	11.8	3360	548	13.2	2730	0.32	85	0.21	17.3	1.4	6.83	6.80
arithmetic mean	12933.333	0.209	3.156	136	0.746	0.341	4875.556	16.089	12922.222	12.278	3472.222	555.667	13.622	2770.000	0.533	115.000	0.273	17.978	2.167	7.136	7.130
standard deviation	1415	0.027	0.598	9.121	0.054	0.366	683.614	1.926	1234	1.007	255	50	1	239	0	15	0	2	1	0	
CV = SD / mean	0.109	0.128	0.190	0.067	0.072	1.075	0.140	0.120	0.095	0.082	0.074	0.090	0.057	0.086	0.449	0.127	0.127	0.118	0.316	0.059	0.050
count (r)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
alpha (95% = 0.05)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.95
t(alpha, df=r-1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	-1.86	
Student's t UCL	13810.48	0.23	3.53	141.88	0.78	0.57	5299.29	17.28	13686.91	12.90	3630.58	586.83	14.11	2918.12	0.68	124.04	0.29	19.29	2.59	7.40	6.80
Chebychev UCL	14989.42	0.25	4.02	149.47	0.82	0.87	5868.82	18.89	14714.70	13.74	3843.42	628.72	14.76	3117.20	0.88	136.18	0.32	21.06	3.16	7.75	7.10

1-1.5 ft-bgs

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 10	15800	0.24	3.3	146	0.93	0.12	5450	19.40	15500	12.6	4050	608	15.9	3110	0.48	130	0.31	21.4	2.0	7.4	7.0
Rep 11	15300	0.20	3.8	150	0.81	0.90	6390	17.30	13900	13	3710	631	15.1	2600	0.40	110	0.26	21.2	2.2	7.4	7.0
Rep 12	13800	0.19	3.2	138	0.72	0.80	5580	15.20	12600	11.8	3450	566	13.4	2540	0.39	105	0.25	17.9	2.0	7.4	7.0
Rep 37	9160	0.18	1.8	101	0.62	0.09	5630	11.30	9070	10.3	2940	391	11.4	1790	0.37	100	0.24	10.1	2.8	7.7	7.0
Rep 38	11000	0.19	2.8	109	0.68	0.10	11600	13.70	11500	10.6	3920	402	12.9	2080	0.38	105	0.25	15.1	1.7	7.8	7.0
Rep 39	11200	0.17	2.8	116	0.7	0.09	6980	13.40	11100	10.6	3550	390	12.9	2130	0.35	95	0.23	15.0	1.6	7.7	7.0
Rep 64	12100	0.19	3.7	129	0.71	0.10	9560	16.00	12600	10.7	3710	504	13.2	2380	0.38	105	0.25	18.2	1.8	7.73	7.7
Rep 65	12600	0.25	3.6	123	0.70	0.13	5330	16.60	12900	10.6	3420	486	13	2430	0.50	140	0.33	17.6	1.5	7.34	7.3
Rep 66	14300	0.22	4.0	138	0.80	0.11	4840	18.40	14300	11.4	3810	546	14.6	2910	0.43	120	0.28	20.6	1.5	7.4	7.0
arithmetic mean	12806.667	0.202	3.222	128	0.741	0.268	6817.778	15.700	12607.778	11.289	3617.778	502.667	13.600	2441.111	0.405	112.222	0.264	17.456	1.900	7.539	7.53
standard deviation	2182	0.028	0.680	16.836	0.092	0.331	2278.639	2.582	1904	0.979	329	93	1	412	0	15	0	4	0	0	0
CV = SD / mean	0.170	0.136	0.211	0.132	0.124	1.233	0.334	0.164	0.151	0.087	0.091	0.185	0.100	0.169	0.128	0.132	0.129	0.208	0.219	0.025	0.021
count (r)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
alpha (95% - 0.05)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.95
t(alpha, df=r-1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	-1.86
Student's t UCL	14159.00	0.22	3.64	138.21	0.80	0.47	8230.19	17.30	13787.94	11.90	3821.47	560.25	14.45	2696.43	0.44	121.40	0.29	19.71	2.16	7.66	7.41
Chebychev UCL	15976.63	0.24	4.21	152.24	0.87	0.75	10128.56	19.45	15374.16	12.71	4095.09	637.63	15.58	3039.59	0.48	133.75	0.31	22.74	2.50	7.81	7.5

Attachment 3

**95% UCL Calculations
Nu-West Industries, Inc.
Ida Phosphate Operations Facility
Soda Springs, Idaho**

ISM Calculator for 1-sided Upper Confidence Limit (UCL) for the Mean 1.5-2 ft-bgs

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 13	13500	0.23	2.4	134	0.82	0.12	11600	16.30	13100	11.1	4320	500	14.4	2450	0.46	125	0.30	17.8	1.9	7.6	7.0
Rep 14	14200	0.21	3.4	149	0.76	0.75	15300	15.80	13500	12	4750	539	15.1	2390	0.41	110	0.27	19.0	1.6	7.7	7.1
Rep 15	14400	0.21	3.3	146	0.79	0.74	9420	16.40	13700	11.8	4280	531	14.6	2570	0.42	115	0.27	19.1	1.4	7.9	7.9
Rep 40	10400	0.19	2.8	122	0.65	0.09	14200	12.70	11000	10.0	3790	386	12.7	1760	0.37	100	0.24	14.1	2.8	8.0	8.0
Rep 41	10900	0.18	3.1	118	0.66	0.09	17900	12.80	10700	9.9	4140	354	12.6	1870	0.36	100	0.24	15.0	1.9	8.0	8.0
Rep 42	11000	0.18	2.9	121	0.68	0.09	11900	13.00	11200	10.4	4110	370	13.2	1800	0.37	100	0.24	14.7	1.9	7.9	7.9
Rep 67	12000	0.18	2.6	125	0.66	0.09	9420	14.90	11600	10.2	3770	431	12.1	2510	0.37	100	0.24	15.4	2.5	7.5	7.5
Rep 68	12300	0.16	3.7	141	0.72	0.22	14400	16.60	13000	12.2	4280	500	13.4	2230	0.32	85	0.21	19.3	1.8	7.62	7.62
Rep 69	12700	0.24	3.2	137	0.72	0.12	5830	16.70	13400	11.4	3780	503	13.6	2610	0.48	130	0.32	18.2	1.6	7.34	7.34
arithmetic mean	12377.778	0.196	3.044	133	0.718	0.256	12218.889	15.022	12355.556	11.000	4135.556	457.111	13.522	2243.333	0.393	107.222	0.256	16.956	1.933	7.730	7.730
standard deviation	1454	0.027	0.410	11.501	0.061	0.280	3664.364	1.728	1207	0.899	323	72	1	344	0	14	0	2	0	0	
CV = SD / mean	0.117	0.138	0.135	0.087	0.086	1.094	0.300	0.115	0.098	0.082	0.078	0.158	0.074	0.153	0.133	0.132	0.137	0.125	0.231	0.030	0.030
count (r)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
alpha (95% = 0.05)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.95	
t(alpha, df=r-1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	-1.86	
Student's t UCL	13279.11	0.21	3.30	139.68	0.76	0.43	14490.24	16.09	13103.95	11.56	4335.62	501.97	14.15	2456.51	0.43	116.00	0.28	18.27	2.21	7.87	7.55
Chebychev UCL	14490.55	0.23	3.64	149.27	0.81	0.66	17543.09	17.53	14109.84	12.31	4604.52	562.27	14.98	2743.02	0.47	127.81	0.31	20.04	2.58	8.06	7.75

2-2.5 ft-bgs

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 16	11600	0.19	2.8	142	0.73	0.10	23800	14.00	11500	10.5	5410	426	13.4	1900	0.38	105	0.25	16.0	2.0	7.7	7.7
Rep 17	13100	0.23	3.1	159	0.72	0.69	20400	15.10	13200	11.2	5610	510	15.1	2030	0.46	125	0.30	19.1	1.7	7.8	7.6
Rep 18	12700	0.19	3.3	151	0.65	0.70	20800	14.80	11700	10.9	4760	475	14.2	2000	0.38	105	0.25	18.5	1.8	8.0	8.0
Rep 43	11800	0.25	3.1	136	0.69	0.12	21300	14.20	12200	10.3	4680	365	13.7	1830	0.49	135	0.32	16.7	2.9	8.1	8.1
Rep 44	10300	0.16	3.0	129	0.66	0.08	27800	11.90	9810	9.8	4960	339	12.2	1680	0.32	90	0.21	13.9	2.2	8.1	8.1
Rep 45	10400	0.24	3.2	129	0.65	0.12	27100	12.30	10400	9.2	4940	333	12.4	1650	0.46	125	0.30	15.7	2.2	8.1	8.1
Rep 70	12800	0.23	3.6	144	0.71	0.12	19600	16.60	13200	10.9	4630	458	13.1	2250	0.47	125	0.30	19.4	2.1	7.67	7.67
Rep 71	12400	0.19	3.3	136	0.71	0.10	12500	16.40	12900	11.7	4220	482	13.7	2150	0.38	105	0.25	18.1	2.2	7.71	7.71
Rep 72	10800	0.18	2.9	124	0.65	0.09	9330	14.60	11600	10.6	3640	426	12.4	1950	0.36	100	0.23	15.3	1.9	7.63	7.63
arithmetic mean	11766.667	0.205	3.144	139	0.686	0.233	20292.222	14.433	11834.444	10.567	4761.111	423.778	13.356	1937.778	0.409	112.778	0.266	16.967	2.111	7.874	7.874
standard deviation	1067	0.030	0.240	11.297	0.033	0.262	6099.901	1.596	1191	0.745	590	65	1	199	0	15	0	2	0	0	0
CV = SD / mean	0.091	0.147	0.076	0.081	0.048	1.123	0.301	0.111	0.101	0.071	0.124	0.153	0.071	0.103	0.144	0.133	0.144	0.112	0.165	0.027	0.027
count (r)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
alpha (95% - 0.05)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.95
t(alpha, df=r-1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	-1.86
Student's t UCL	12427.76	0.22	3.29	145.89	0.71	0.40	24073.24	15.42	12572.41	11.03	5126.95	463.90	13.94	2061.23	0.45	122.09	0.29	18.14	2.33	8.01	7.74
Chebychev UCL	13316.31	0.25	3.49	155.30	0.73	0.61	29155.17	16.75	13564.28	11.65	5618.65	517.82	14.74	2227.17	0.49	134.61	0.32	19.73	2.62	8.18	7.89

2.5-3 ft-bgs

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 19	11700	0.17	2.9	151	0.74	0.09	29400	13.60	11400	10.3	6210	478	13.9	1780	0.34	95	0.23	16.5	1.9	7.9	7.9
Rep 20	14400	0.24	4.0	185	0.8	0.79	31300	16.90	14200	11.6	6960	603	17	2000	0.48	130	0.31	23.4	1.7	8.0	8.0
Rep 21	12400	0.25	3.3	162	0.65	0.67	29400	14.60	12300	9.9	6010	484	14.2	1850	0.50	140	0.33	19.7	1.5	8.0	8.0
Rep 46	12500	0.21	3.2	147	0.72	0.11	28500	14.10	12300	9.9	5440	380	13.4	1750	0.43	115	0.28	17.8	3.4	8.1	8.1
Rep 47	11000	0.21	2.9	140	0.7	0.11	29400	12.70	11000	10.1	5520	356	13.4	1610	0.42	115	0.27	15.7	2.4	8.2	8.2
Rep 48	11200	0.22	3.4	152	0.69	0.11	45600	12.70	11200	10.1	6460	359	13.1	1690	0.44	120	0.29	16.3	2.3	8.2	8.1
Rep 73	12000	0.25	3.1	139	0.65	0.13	21400	15.10	11800	9.9	4930	416	12.4	1980	0.49	135	0.32	17.1	2.3	7.82	7.82
Rep 74	11800	0.21	2.9	135	0.65	0.10	15700	15.20	11800	10.3	4640	464	13	1720	0.41	110	0.27	16.4	2.6	7.82	7.82
Rep 75	11100	0.18	3.1	135	0.69	0.09	12100	15.00	12000	11.2	3830	499	13.2	1960	0.35	95	0.23	16.5	2.3	7.68	7.68
arithmetic mean	12011.111	0.213	3.200	150	0.699	0.242	26977.778	14.433	12000.000	10.367	55555.556	448.778	13.733	1815.556	0.426	117.222	0.278	17.711	2.267	7.967	7.967
standard deviation	1046	0.029	0.350	16.016	0.050	0.279	9779.031	1.336	942	0.614	978	80	1	140	0	16	0	2	1	0	0
CV = SD / mean	0.087	0.134	0.109	0.107	0.071	1.153	0.362	0.093	0.079	0.059	0.176	0.178	0.097	0.077	0.133	0.137	0.133	0.137	0.245	0.023	0.023
count (r)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
alpha (95% = 0.05)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.95
t(alpha, df=r-1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	-1.86
Student's t UCL	12659.32	0.23	3.42	159.48	0.73	0.41	33039.30	15.26	12583.94	10.75	6161.58	498.32	14.56	1902.06	0.46	127.16	0.30	19.22	2.61	8.08	7.88
Chebychev UCL	13530.56	0.25	3.71	172.83	0.77	0.65	41186.38	16.37	13368.80	11.26	6976.11	564.91	15.67	2018.34	0.51	140.51	0.33	21.25	3.07	8.23	7.98

3-3.5 ft-bgs

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 22	11800	0.19	3.1	166	0.76	0.10	30800	14.10	12000	12.2	6720	600	15.4	1580	0.38	105	0.25	18.5	1.9	7.8	7.8
Rep 23	12900	0.23	3.6	199	0.74	0.83	27000	15.10	13300	11.8	7450	725	19.4	1510	0.46	125	0.30	22.4	1.7	8.0	8.0
Rep 24	12800	0.25	3.7	163	0.75	0.78	25300	14.90	13000	11.3	6960	671	17.5	1670	0.50	135	0.32	21.8	1.6	8.0	8.0
Rep 49	13800	0.23	3.0	156	0.79	0.12	35900	14.50	12400	9.9	5610	376	13.6	1890	0.55	125	0.30	18.4	3.2	8.2	8.2
Rep 50	12400	0.20	3.4	150	0.72	0.10	37500	13.10	11700	9.1	6140	343	13.4	1610	0.40	244	0.26	17.5	3.7	8.2	8.2
Rep 51	10500	0.19	3.0	145	0.67	0.10	34400	12.50	12000	9.5	6700	372	15.8	1440	0.43	256	0.24	14.5	2.9	8.2	8.2
Rep 76	10800	0.19	3.1	154	0.67	0.10	28600	14.30	11400	11.3	5560	488	13.3	1620	0.38	105	0.25	15.9	2.9	7.92	7.92
Rep 77	10700	0.22	3.5	146	0.68	0.11	21400	14.70	12100	10.8	5270	510	13.6	1560	0.43	120	0.28	17.2	3.2	7.84	7.84
Rep 78	11000	0.19	3.6	153	0.68	0.10	18400	14.80	12000	11.9	4010	655	14.1	1860	0.38	105	0.25	18.5	2.5	7.8	7.8
arithmetic mean	11855.556	0.207	3.333	159	0.718	0.257	2811.111	14.233	12211.111	10.867	6046.667	526.667	15.122	1637.778	0.432	146.667	0.269	18.300	2.622	8.000	8.000
standard deviation	1177	0.023	0.283	16.511	0.045	0.311	6518.329	0.883	603	1.119	1053	143	2	150	0	60	0	3	1	0	(0)
CV = SD / mean	0.099	0.109	0.085	0.104	0.062	1.209	0.226	0.062	0.049	0.103	0.174	0.272	0.141	0.092	0.139	0.406	0.107	0.138	0.283	0.022	0.022
count (r)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
alpha (95% = 0.05)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.95
t(alpha, df=r-1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	-1.86	1.86
Student's t UCL	12585.10	0.22	3.51	169.35	0.75	0.45	32851.49	14.78	12584.88	11.56	6699.39	615.45	16.45	1730.74	0.47	183.61	0.29	19.87	3.08	8.11	7.88
Chebychev UCL	13565.67	0.24	3.74	183.10	0.78	0.71	38282.02	15.52	13087.25	12.49	7576.70	734.79	18.22	1855.70	0.52	233.27	0.31	21.98	3.70	8.25	8.01

Attachment 3

**95% UCL Calculations
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

**ISM Calculator for 1-sided Upper Confidence Limit (UCL) for the Mean
3.5-4 ft-bgs**

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 25	14000	0.19	3.6	211	0.89	0.28	24200	16.60	15000	13	7950	835	22.1	1550	0.39	268	0.25	24.4	2.1	7.8	7.8
Rep 26	10200	0.16	3.0	179	0.65	0.68	28900	11.10	10400	11.5	7190	819	15.4	1240	0.32	171	0.21	17.1	1.7	8.2	8.2
Rep 27	11700	0.19	3.7	231	0.76	0.89	22500	13.40	12700	13.7	7380	1220	21.3	1410	0.37	100	0.24	21.6	1.9	8.0	8.0
Rep 52	11700	0.19	3.3	147	0.86	0.10	38400	12.50	11400	10	5720	370	13.2	1640	0.38	264	0.25	16.4	3.0	8.2	8.2
Rep 53	12100	0.19	3.2	136	0.78	0.10	28700	13.50	11700	9	5310	343	12.2	1480	0.37	204	0.24	17.2	3.7	8.1	8.1
Rep 54	14800	0.25	4.4	164	0.96	0.13	46700	16.60	15400	9.8	7900	432	15.5	1780	0.50	366	0.33	24.5	3.5	8.2	8.2
Rep 79	11000	0.19	3.6	166	0.67	0.09	30600	14.20	11700	11.5	6790	651	14.4	1650	0.37	100	0.24	17.5	1.9	7.94	7.94
Rep 80	11321	0.20	4.0	148	0.66	0.10	24829	15.00	12321	11.0	5278	521	14.5	1518	0.50	108	0.25	18.1	3.0	7.9	7.9
Rep 81	11000	0.21	2.9	175	0.67	0.11	20700	14.60	11700	11.5	4610	715	15.90	1570	0.42	115	0.28	17.1	2.6	7.9	7.9
arithmetic mean	11980.111	0.194	3.522	173	0.767	0.273	29503.175	14.167	12480.111	11.222	6458.667	656.222	16.056	1537.556	0.401	188.389	0.252	19.322	2.600	8.020	8.020
standard deviation	1489	0.026	0.482	30.919	0.115	0.301	8318.745	1.801	1668	1.501	1249	280	3	155	0	95	0	3	1	0	0
CV = SD / mean	0.124	0.133	0.137	0.179	0.150	1.100	0.282	0.127	0.134	0.134	0.193	0.427	0.212	0.101	0.156	0.503	0.130	0.169	0.285	0.018	0.018
count (r)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
alpha (95% = .05)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.95
t(alpha, df=r-1)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	-1.86	
Student's t UCL	12902.82	0.21	3.82	192.17	0.84	0.46	34659.54	15.28	13514.27	12.15	7232.60	829.94	18.17	1633.49	0.44	247.07	0.27	21.35	3.06	8.11	7.93
Chebychev UCL	14143.00	0.23	4.22	217.92	0.93	0.71	41590.03	16.78	14904.24	13.40	8272.81	1063.43	21.01	1762.43	0.49	325.94	0.30	24.07	3.68	8.23	8.03

0-6 in-bgs - weighted

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 1 and 4	12916.67	0.18	2.70	139.00	0.79	0.60	3588.33	15.88	12883.33	12.82	3315.00	586.00	13.45	2976.67	0.44	96.67	0.24	17.17	2.72	6.2	6.2
Rep 2 and 5	13500.00	0.18	3.10	149.00	0.82	0.73	3536.67	16.33	13033.33	12.43	3310.00	636.00	13.87	3203.33	0.37	101.67	0.24	18.57	2.40	6.0	6.0
Rep 3 and 6	12433.33	0.18	3.10	136.00	0.73	0.93	3236.67	14.90	12200.00	12.30	3130.00	571.67	12.50	2933.33	0.62	96.67	0.23	17.83	2.50	5.9	5.9
Rep 28 and 31	13533.33	0.22	3.03	146.33	0.74	0.32	6048.33	15.88	13366.67	12.33	3718.33	527.00	13.90	2968.33	0.93	115.00	0.27	18.78	3.28	6.7	6.7
Rep 29 and 32	12233.33	0.22	2.57	129.67	0.68	0.37	3703.33	14.47	11933.33	11.17	3196.67	486.67	12.33	2960.00	1.25	120.00	0.28	17.03	3.53	6.5	6.5
Rep 30 and 33	12000.00	0.23	2.73	132.33	0.67	0.38	4260.00	14.73	12666.67	11.30	3366.67	502.33	13.00	2920.00	0.62	126.67	0.30	18.30	4.23	6.9	6.9
Rep 55 and 58	12966.67	0.18	3.78	132.67	0.72	0.32	4051.67	16.42	12983.33	11.85	3378.33	526.67	12.83	2906.67	0.35	95.83	0.23	18.30	1.24	6.5	6.5
Rep 56 and 59	13400.00	0.17	3.93	145.67	0.78	0.44	4420.00	17.70	13366.67	13.33	3550.00	617.67	13.93	3056.67	0.51	95.00	0.23	19.13	1.47	6.5	6.5
Rep 57 and 60	11833.33	0.20	3.60	131.67	0.68	0.39	3820.00	15.47	12100.00	11.67	3143.33	545.33	12.43	2716.67	0.41	111.67	0.27	16.73	1.24	6.2	6.2
arithmetic mean	12757.407	0.195	3.172	138	0.734	0.498	4073.889	15.753	12725.926	12.133	3345.370	555.481	13.139	2960.185	0.611	106.574	0.253	17.983	2.512	6.369	6.369
standard deviation	656.014	0.022	0.493	7.283	0.051	0.211	827.680	1.006	537	0.706	192	51	1	129	0	12	0	1	1	0	

Attachment 3

**95% UCL Calculations
Nu-West Industries, Inc.
Conda Phosphate Operations Facility
Soda Springs, Idaho**

ISM Calculator for 1-sided Upper Confidence Limit (UCL) for the Mean

2-4 ft-bgs		Replicate Results																			
Replicate Number	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 16	11600	0.19	2.8	142	0.73	0.10	23800	14.00	11500	10.5	5410	426	13.4	1900	0.38	105	0.25	16.0	2.0	7.7	7.7
Rep 17	13100	0.23	3.1	159	0.72	0.69	20400	15.10	13200	11.2	5610	510	15.1	2030	0.46	125	0.30	19.1	1.7	7.8	7.8
Rep 18	12700	0.19	3.3	151	0.65	0.70	20800	14.80	11700	10.9	4760	475	14.2	2000	0.38	105	0.25	18.5	1.8	8.0	8.0
Rep 43	11800	0.25	3.1	136	0.69	0.12	21300	14.20	12200	10.3	4680	365	13.7	1830	0.49	135	0.32	16.7	2.9	8.1	8.1
Rep 44	10300	0.16	3.0	129	0.66	0.08	27800	11.90	9810	9.8	4960	339	12.2	1680	0.32	90	0.21	13.9	2.2	8.1	8.1
Rep 45	10400	0.24	3.2	129	0.65	0.12	27100	12.30	10400	9.2	4940	333	12.4	1650	0.46	125	0.30	15.7	2.2	8.1	8.1
Rep 70	12800	0.23	3.6	144	0.71	0.12	19600	16.60	13200	10.9	4630	458	13.1	2250	0.47	125	0.30	19.4	2.1	7.7	7.7
Rep 71	12400	0.19	3.3	136	0.71	0.10	12500	16.40	12900	11.7	4220	482	13.7	2150	0.38	105	0.25	18.1	2.2	7.7	7.7
Rep 72	10800	0.18	2.9	124	0.65	0.09	9330	14.60	11600	10.6	3640	426	12.4	1950	0.36	100	0.23	15.3	1.9	7.6	7.6
Rep 19	11700	0.17	2.9	151	0.74	0.09	29400	13.60	11400	10.3	6210	478	13.9	1780	0.34	95	0.23	16.5	1.9	7.9	7.9
Rep 20	14400	0.24	4.0	185	0.8	0.79	31300	16.90	14200	11.6	6960	603	17	2000	0.48	130	0.31	23.4	1.7	8.0	8.0
Rep 21	12400	0.25	3.3	162	0.65	0.67	29400	14.60	12300	9.9	6010	484	14.2	1850	0.50	140	0.33	19.7	1.5	8.0	8.0
Rep 46	12500	0.21	3.2	147	0.72	0.11	28500	14.10	12300	9.9	5440	380	13.4	1750	0.43	115	0.28	17.8	3.4	8.1	8.1
Rep 47	11000	0.21	2.9	140	0.7	0.11	29400	12.70	11000	10.1	5520	356	13.4	1610	0.42	115	0.27	15.7	2.4	8.2	8.2
Rep 48	11200	0.22	3.4	152	0.69	0.11	45600	12.70	11200	10.1	6460	359	13.1	1690	0.44	120	0.29	16.3	2.3	8.2	8.2
Rep 73	12000	0.25	3.1	139	0.65	0.13	21400	15.10	11800	9.9	4930	416	12.4	1980	0.49	135	0.32	17.1	2.3	7.82	7.82
Rep 74	11800	0.21	2.9	135	0.65	0.10	15700	15.20	11800	10.3	4640	464	13	1720	0.41	110	0.27	16.4	2.6	7.82	7.82
Rep 75	11100	0.18	3.1	135	0.69	0.09	12100	15.00	12000	11.2	3830	499	13.2	1960	0.35	95	0.23	16.5	2.3	7.68	7.68
Rep 22	11800	0.19	3.1	166	0.76	0.10	30800	14.10	12000	12.2	6720	600	15.4	1580	0.38	105	0.25	18.5	1.9	7.8	7.8
Rep 23	12900	0.23	3.6	199	0.74	0.83	27000	15.10	13300	11.8	7450	725	19.4	1510	0.46	125	0.30	22.4	1.7	8.0	8.0
Rep 24	12800	0.25	3.7	163	0.75	0.78	25300	14.90	13000	11.3	6960	671	17.5	1670	0.50	135	0.32	21.8	1.6	8.0	8.0
Rep 49	13800	0.23	3.0	156	0.79	0.12	35900	14.50	12400	9.9	5610	376	13.6	1890	0.55	125	0.30	18.4	3.2	8.2	8.2
Rep 50	12400	0.20	3.4	150	0.72	0.10	37500	13.10	11700	9.1	6140	343	13.4	1610	0.40	244	0.26	17.5	3.7	8.2	8.2
Rep 51	10500	0.19	3.0	145	0.67	0.10	34400	12.50	12000	9.5	6700	372	15.8	1440	0.43	256	0.24	14.5	2.9	8.2	8.2
Rep 76	10800	0.19	3.1	154	0.67	0.10	28600	14.30	11400	11.3	5560	488	13.3	1620	0.38	105	0.25	15.9	2.9	7.92	7.92
Rep 77	10700	0.22	3.5	146	0.68	0.11	21400	14.70	12100	10.8	5270	510	13.6	1560	0.43	120	0.28	17.2	3.2	7.84	7.84
Rep 78	11000	0.19	3.6	153	0.68	0.10	18400	14.90	12000	10.8	4010	655	14.1	1860	0.38	105	0.25	18.5	2.5	7.8	7.8
Rep 25	14000	0.19	3.6	211	0.89	0.28	24200	16.60	15000	13	7950	835	22.1	1550	0.39	268	0.25	24.4	2.1	7.8	7.8
Rep 26	10200	0.16	3.0	179	0.65	0.68	28900	11.10	10400	11.5	7190	819	15.4	1240	0.32	171	0.21	17.1	1.7	8.2	8.2
Rep 27	11700	0.19	3.7	231	0.76	0.89	22500	13.40	12700	13.7	7380	1220	21.3	1410	0.37	100	0.24	21.6	1.9	8.0	8.0
Rep 52	11700	0.19	3.3	147	0.86	0.10	38400	12.50	11400	10	5720	370	13.2	1640	0.38	264	0.25	16.4	3.0	8.2	8.2
Rep 53	12100	0.19	3.2	136	0.78	0.10	28700	13.50	11700	9	5310	343	12.2	1480	0.37	204	0.24	17.2	3.7	8.1	8.1
Rep 54	14800	0.25	4.4	164	0.96	0.13	46700	16.60	15400	9.8	7900	432	15.5	1780	0.50	366	0.33	24.5	3.5	8.2	8.2
Rep 79	11000	0.19	3.6	166	0.67	0.09	30600	14.20	11700	11.5	6790	651	14.4	1650	0.37	100	0.24	17.5	1.9	7.94	7.94
Rep 80	11321	0.20	4.0																		

Attachment 3

95% UCL Calculations
 Nu-West Industries, Inc.
 Conda Phosphate Operations Facility
 Soda Springs, Idaho

ISM Calculator for 1-sided Upper Confidence Limit (UCL) for the Mean
 0-4 ft-bgs (weighted)

Replicate Number	Replicate Results																				
	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Sodium	Thallium	Vanadium	Fluoride	pH (UCL)	pH (LCL)
Rep 1 and 4	12916.67	0.18	2.70	139.00	0.79	0.60	3588.33	15.88	12883.33	12.82	3315.00	586.00	13.45	2976.67	0.44	96.67	0.24	17.17	2.72	6.2	6.2
Rep 2 and 5	13500.00	0.18	3.10	149.00	0.82	0.73	3536.67	16.33	13033.33	12.43	3310.00	636.00	13.87	3203.33	0.37	101.67	0.24	18.57	2.40	6.0	6.0
Rep 3 and 6	12433.33	0.18	3.10	136.00	0.73	0.93	3236.67	14.90	12200.00	12.30	3130.00	571.67	12.50	2933.33	0.62	96.67	0.23	17.83	2.50	5.9	5.9
Rep 28 and 31	13533.33	0.22	3.03	146.33	0.74	0.32	6048.33	15.88	13366.67	12.33	3718.33	527.00	13.90	2968.33	0.93	115.00	0.27	18.78	3.28	6.7	6.7
Rep 29 and 32	12233.33	0.22	2.57	129.67	0.68	0.37	3703.33	14.47	11933.33	11.17	3196.67	486.67	12.33	2960.00	1.25	120.00	0.28	17.03	3.53	6.5	6.5
Rep 30 and 33	12000.00	0.23	2.73	132.33	0.67	0.38	4260.00	14.73	12666.67	11.30	3366.67	502.33	13.00	2920.00	0.62	126.67	0.30	18.30	4.23	6.9	6.9
Rep 55 and 58	12966.67	0.18	3.78	132.67	0.72	0.32	4051.67	16.42	12983.33	11.85	3378.33	526.67	12.83	2906.67	0.35	95.83	0.23	18.30	1.24	6.5	6.5
Rep 56 and 59	13400.00	0.17	3.93	145.67	0.78	0.44	4420.00	17.70	13366.67	13.33	3550.00	617.67	13.93	3056.67	0.51	95.00	0.23	19.13	1.47	6.5	6.5
Rep 57 and 60	11833.33	0.20	3.60	131.67	0.68	0.39	3820.00	15.47	12100.00	11.67	3143.33	545.33	12.43	2716.67	0.41	111.67	0.27	16.73	1.24	6.2	6.2
Rep 7	13100	0.22	2.6	137	0.8	0.43	3650	16.30	13200	13.3	3280	598	13.5	2900	0.44	120	0.29	18.2	1.8	6.4	6.4
Rep 8	14500	0.21	3.4	140	0.76	0.79	4410	18.30	14700	14.3	3640	619	14.6	2840	0.94	110	0.27	20.8	2.6	6.8	6.8
Rep 9	13400	0.18	3.3	143	0.72	1.10	4920	15.20	12700	12.6	3340	582	13.3	2820	0.36	100	0.23	18.5	2.9	7.1	7.1
Rep 34	13700	0.23	2.7	133	0.75	0.12	5590	16.00	12900	11.5	3640	508	13.6	2940	0.45	125	0.30	17.8	2.8	7.6	7.6
Rep 35	10300	0.24	2.6	122	0.64	0.12	5160	13.10	11300	11.2	3070	496	12.6	2250	0.95	130	0.31	14.3	3.0	7.6	7.6
Rep 36	11000	0.23	2.4	123	0.7	0.12	5470	13.60	11100	11.5	3330	480	12.7	2530	0.47	125	0.30	15.4	2.2	7.6	7.6
Rep 61	13700	0.23	3.9	145	0.79	0.12	5500	17.50	14000	11.8	3860	571	14.5	2930	0.47	125	0.30	19.1	1.3	7.2	7.2
Rep 62	14100	0.21	4.0	148	0.81	0.11	5100	18.70	14100	12.5	3730	599	14.6	2990	0.42	115	0.27	20.4	1.5	7.2	7.2
Rep 63	12600	0.16	3.5	135	0.74	0.18	4080	16.10	12300	11.8	3360	548	13.2	2730	0.32	85	0.21	17.3	1.4	6.8	6.8
Rep 10	15800	0.24	3.3	146	0.93	0.12	5450	19.40	15500	12.6	4050	608	15.9	3110	0.48	130	0.31	21.4	2.0	7.4	7.4
Rep 11	15300	0.20	3.8	150	0.81	0.90	6390	17.30	13900	13	3710	631	15.1	2600	0.40	110	0.26	21.2	2.2	7.4	7.4
Rep 12	13800	0.19	3.2	138	0.72	0.80	5580	15.20	12600	11.8	3450	566	13.4	2540	0.39	105	0.25	17.9	2.0	7.4	7.4
Rep 37	9160	0.18	1.8	101	0.62	0.09	5630	11.30	9070	10.3	2940	391	11.4	1790	0.37	100	0.24	10.1	2.8	7.7	7.7
Rep 38	11000	0.19	2.8	109	0.68	0.10	11600	13.70	11500	10.6	3920	402	12.9	2080	0.38	105	0.25	15.1	1.7	7.8	7.8
Rep 39	11200	0.17	2.8	116	0.7	0.09	6980	13.40	11100	10.6	3550	390	12.9	2130	0.35	95	0.23	15.0	1.6	7.7	7.7
Rep 64	12100	0.19	3.7	129	0.71	0.10	9560	16.00	12600	10.7	3710	504	13.2	2380	0.38	105	0.25	18.2	1.8	7.7	7.7
Rep 65	12600	0.25	3.6	123	0.70	0.13	5330	16.60	12900	10.6	3420	486	13	2430	0.50	140	0.33	17.6	1.5	7.3	7.3
Rep 66	14300	0.22	4.0	138	0.80	0.11	4840	18.40	14300	11.4	3810	546	14.6	2910	0.43	120	0.28	20.6	1.5	7.4	7.4
Rep 13	13500	0.23	2.4	134	0.82	0.12	11600	16.30	13100	11.1	4320	500	14.4	2450	0.46	125	0.30	17.8	1.9	7.6	7.6
Rep 14	14200	0.21	3.4	149	0.76	0.75	15300	15.80	13500	12	4750	539	15.1	2390	0.41	110	0.27	19.0	1.6	7.7	7.7
Rep 15	14400	0.21	3.3	146	0.79	0.74	9420	16.40	13700	11.8	4280	531	14.6	2570	0.42	115	0.27	19.1	1.4	7.9	7.9
Rep 40	10400	0.19	2.8	122	0.65	0.09	14200	12.70	11000	10.0	3790	386	12.7	1760	0.37	100	0.24	14.1	2.8	8.0	8.0
Rep 41	10900	0.18	3.1	118	0.66	0.09	17900	12.80	10700	9.9	4140	354	12.6	1870	0.36	100	0.24	15.0	1.9	8.0	8.0
Rep 42	11000	0.18	2.9	121	0.68	0.09	11900	13.00	11200	10.4	4110	370	13.2	1800	0.37	100	0.24	14.7	1.9	7.9	7.9
Rep																					